THE CULTIVATOR.

THIRD — To Improve the Soil and the Mind. — SERIES

VOL. V. — ALBANY, DECEMBER, 1857. — No. XII.

The Cultivator for 1858—Seasonable Items.

ECONOMY IN HARD TIMES.—Agricultural Reading is not a luxury but a necessity. Let no one give it up this winter, because it may be a little difficult to procure currency or specie to remit. Precisely what we shall aim to accomplish is, to prepare the farmer to meet low prices by increasing his crops; to enable him to avail himself of high prices in unfavorable seasons, by keeping up the fertility and tilth of his lands; to save him expense and mistakes in the application of manures, in the care of his stock, in all the processes of the farm and fruit garden, and in a word, to return *once a month* to the careful reader, the full value of the half-dollar he pays us at the beginning of the year.

THE INDEX.—This month's number is partially occupied by a full and complete Index for the year, rendering each volume a perfect book for constant consultation. This is an important point, and more than counterbalances the exclusion of an equal amount of other reading. By reference to this index, the vast amount and variety contained each year in the CULTIVATOR will be at once apparent.

SHOW-BILLS AND PROSPECTUSES.—We shall be glad to supply these for general dissemination. Agents or others who have failed to receive them up to this time, or who wish further supplies, will please "make a note of this."

POST-OFFICES.—These and the STATE should always be specified with great care, and it is an additional precaution against mistakes to add the *County*. Clubs of subscribers may be sent to as many different offices as may be desired.

THE REGISTER FOR 1858.—We have already sent out large numbers of this valuable work, and shall be pleased to send a copy to any one who wishes it for use in procuring subscribers for the CULTIVATOR OR COUNTRY GENTLEMAN. ☞ *Those who have already had copies of the Register to furnish to their subscribers, should be particular to specify this fact*, when they send in complete lists of names and the subscription money.

RURAL AFFAIRS.—This volume is perhaps the most complete and beautiful work ever issued of its kind. It contains 336 pages and 440 Engravings, and retails for $1 post paid. In order to place it in the hands of as large a number as possible, agents are desired in all parts of the country, who will find it meet with a ready sale.

TERMS TO CLUBS AND SINGLY.—The following are our lowest terms—on which the Agent should charge a sufficient advance to remunerate him for his trouble:

The COUNTRY GENTLEMAN, one year, To Clubs,	$1.50
Single Copy,	2.00
do. with the ANNUAL REGISTER, To Clubs,	1.65
Single Copy,	2.25
THE CULTIVATOR, one year, To Clubs,	38
Single Copy,	50
do. with the ANN. REGISTER, To Clubs,	52
Single Copy,	75
The ILL. ANNUAL REGISTER, post-paid, per Dozen	2.00
Single Copy,	25

The commissions thus afforded, are exceeded by no contemporary, and in view of the value and typographical execution of the works, rank them among the cheapest ever offered to the public.

A PREMIUM TO EACH SUBSCRIBER.—We are enabled to offer the ANNUAL REGISTER to each subscriber as a beautiful New-Year's Present, by clubbing it on the above terms with the COUNTRY GENTLEMAN when *Eight Copies*, and with the CULTIVATOR when *Ten Copies* are taken.

PREMIUMS TO AGENTS.—The same persons and lists of subscribers will compete for two lists of Premiums, one to be awarded January First and the other in April, according to the following schedule—retaining for ourselves the privilege, however, of *increasing the second list* as circumstances may render expedient.

1. For the largest amount of cash subscriptions to our Journals, at the lowest Club Rates as specified above, received at this office, January 1st, or previously, we will pay..... TWENTY-FIVE DOLLARS.
2. For the TWO next largest amounts, each, TWENTY DOLLARS.
3. For the THREE next largest amounts, each, FIFTEEN DOLLARS.
4. For the FOUR next largest amounts, each, TEN DOLLARS.
5. For the FIVE next largest amounts, each, FIVE DOLLARS.

IN ALL FIFTEEN CASH PRIZES AS NEW YEAR'S PRESENTS TO OUR AGENTS, AND AS MANY MORE IN PROSPECT.

SUBSCRIBERS IN THE BRITISH PROVINCES—Will remember that we are obliged to charge them *Six Cents a Copy more* for the CULTIVATOR, and *Twenty-Six Cents a Copy more* for the COUNTRY GENTLEMAN, than the prices above named, to cover American Postage to the lines. LUTHER TUCKER & SON, ALBANY, N. Y.

Cost and Profits of a Half Acre Garden.

MESSRS. EDITORS—Will you have the kindness to answer the following questions in the next number of the "Country Gentleman?" What will it cost to fence a half acre lot on three sides, with a common board fence? What will it cost to plow said lot? How much seed, (such as is usually found in a garden,) would be necessary to plant, and the cost? What would be the cost of six fruit trees—four apple, one cherry and one plum—such as you would recommend? What is the lowest sum that would be necessary to build a house 14 by 20 feet? What sized house ought to be built for $500 00—plain and substantial? How much produce could I raise on said lot, and how much would it bring in market?

I have just purchased a lot containing half an acre of land, and wish to commence improvements in the spring. By answering the above questions you will assist me very much. I don't expect that you will give me *exact* answers, but would like to have you answer them as near as you can. A. P. L. *Burlington, Vt.*

The cost of the board fence will vary with the price of boards and posts, and with the mode of building. A simple rough board fence, neatly made, will cost about $1.25 per rod at the lowest—a good one $1.50. A rough picket fence, six feet high, to exclude stragglers, will cost about $3.00 a rod. A *square* half acre is nine rods on each side, and three sides are 27 rods. At $1.25 per rod, the cost of fencing would be about $34—at $3, it would be $81.

A common, simple plowing could be performed for $1 50—a thorough subsoiling and trench-plowing would be about $7 or 8.

The cost of seed to plant half an acre with a miscellaneous collection of garden vegetables, merely to supply a family, is estimated by Buist at $10. For marketing merely, the character of the market would greatly modify the selection, and it could be only determined by experience. The cost of six fruit trees would be two dollars.

A house 14 by 20 feet, with rough and whitewashed exterior, matched siding, and lathed and plastered inside, without cellar or garret, could be built for a hundred dollars. With cellar, an attic with two bed rooms, (story and a half house) and planed and painted outside, the cost would not be far from two hundred and fifty dollars. A dwelling double this size, or more, with cellar, upper rooms, and finish like the last, would cost about $500

Not being familiar with the business of market gardening, we could not give any estimate of the amount the half acre would yield. It would of course depend greatly on the character of the soil, amount of manure, skill in cultivation, nature of the market, experience and tact in meeting the demands of the market, and kinds of crops raised. A poor cultivator might not obfifty dollars a year—a skillful one might make hundreds.

Winter Feed for Milch Cows.

MESSRS. EDITORS—I wrote to you some time ago for information in relation to Savage's Steam-boiler, and mentioned to you that I was sending milk to New-York by the Harlem railroad, and wanted to find the best way to heat water in sufficient quantities to scald feed for about thirty cows daily, through the winter.

In your reply you requested me to write for publication in your papers, my mode of preparing cow feed in winter, and how I feed my cows in summer; and now, after some delay, I will endeavor to comply with your request.

In summer, I turn them to pasture, having a plenty of rough land that is good for little else.

In winter, their feed consists of corn, oats and hay. I bring in a portion of my corn in the stout, without husking, when sufficiently dry, and mow it away for winter use. I then cut the corn, together with oats in the sheaf, and tread the mixture down in a large feed tub, or a hogshead with one head, and turn on fifty or sixty gallons of boiling water, which softens the corn so that the cows can eat it without making their teeth sore, and the oats will be perfectly cooked through, so that they will all digest.

I have one of Daniel's patent feed cutters, which I purchased about three years ago at R. L. Allen's agricultural ware-house and seed store, at 189 and 191 Water st., New-York—cost, twenty-five dollars. It is calculated to go by horse power, but is the best hand power cutter I have ever seen, and when in good order, two men will cut feed enough in one hour for my thirty cows one day, or two feedings.

One hogshead full of feed, well trod down, will make about thirty pailfuls, or one feeding for my cows. I feed them twice a day with this feed, and they have what hay they want besides.

The advantage that I find in preparing my feed in this way, over that of threshing and grinding, is—1st. It is cheaper to cut my oats and corn than to thresh and husk the same—2d. I save the trouble of carrying my corn and oats two miles to mill, and bringing it home again—3d. I save the toll which is something of an item—4th. The whole of the oats, straw, chaff, &c., and the whole of the corn, stalks, husks, cobs, silk and all, is eaten, except some of the largest butt ends of the stalks are left, which I consider no loss, as they are not fit for any animal to eat—5th. I get more milk than I can make out of dry feed; and although I have tried no definite experiments, I am satisfied that the same quantity of corn and oats prepared in this way will go about as far again as to thresh and grind them, and throw away the straw and chaff, which, fed dry, (in case a cow can be coaxed to eat it,) will only have the effect to dry up her milk.

My cows eat their feed greedily, and with two heaping pailfuls a day to each cow, it requires less hay to fill them up, and as each cow gets three or four gallons of water in her scalded feed, night and morning, while standing in her stall, she will not crave so large a quantity of cold water when let out in the morning, as she would if fed on dry provender and hay; and the chilling effects of cold water taken in large quantities, cannot be very favorable to the making of milk.

Corn, to be fed in this way, should be planted not over three feet apart each way, so that the stalks will not be very coarse and the more leafy, and although the ears will not be very large, yet they will probably yield as much weight by the acre as when planted three and a half or four feet apart, and particular care should be taken to have it secured and brought in in good order.

The objection to this mode of preparing food, is the trouble and expense of heating water, which I think might be greatly obviated by bringing into use some of the newly improved boilers that are advertised for heating houses, &c., with very little time and fuel, and have them so constructed as to adapt them to our use.

I believe this to be the true way to feed oats to milking cows, but corn prepared in this way does not perfectly digest, and ought to be put into a large boiler, and by standing a few hours over the same fire that it requires simply to boil the water, the kernels will crack open and become perfectly digestible. I have practiced the latter course for two winters past with good success, by using a wooden box with a sheet iron bottom, but it takes rather too much wood, and the box gets dried up and out of order every summer.

The object of my former inquiry was to find some kind of a boiler to meet my particular wants, and any information in relation to the subject through the columns of THE CULTIVATOR, will be thankfully received by a subscriber. H. H. *Wassaic, Dutchess Co., N. Y.*

The Statistical Agriculture of New-York.

Quite a complete index to Agricultural operations in this State during the year 1854, is furnished by the census for the succeeding year, the results of which have recently been compiled with great judgment into a valuable volume, by Dr. F. B. Hough.

Extent of Surface Farmed. The area of the State, according to Burr's Atlas, is 28,297,142 acres, and in 1855, 28,059,994 acres were assessed. The number reported in the Agricultural returns is:

Acres Improved, including all land reclaimed from a state of nature, deducting highways, lakes and ponds of water, when the latter exceed ten acres in area,	13,657,491
Acres Unimproved, including woodlands, uncultivated swamps and marshes, and lakes and ponds of water over ten acres in area, if considered private property,	13,100,692
Total,	26,758,183

Presuming these figures to be entitled to an equal degree of credit, it will appear by subtraction, that 1,301,811 acres assessed, but not returned agriculturally, must be consumed by villages and cities, lots in which, even if not built upon, are excluded above, unless under actual cultivation. The returns of Improved Lands show an increase in five years of 1,248,497 acres, while those of unimproved lands are very nearly double the number returned in 1850.

The number of farms in 1855, is 231,740 averaging to each a total of nearly 116 acres, about one-half of which, or 59 acres, were improved. In 1850 there were 170,621 farms of about 112 acres each, of which 73 acres or about two-thirds were improved. Thus the improved lands, although really advanced in amount about 10 per cent., show an apparent decline when compared with the increase in the number of farms, which was equal to 36 per cent, and still more in proportion to that in unimproved lands, which was 95 per cent. This is doubtless owing mainly to emigration to the West, which might operate to prevent bringing into actual cultivation an area commensurate with the number and extent of the new farms opened.

The largest county in the State is St. Lawrence, which returns 499,554 acres of improved, and 885,531 of uninproved lands. Next come Franklin with 144,627 of the former, and 834,965 of the latter, Essex with 185,443 against 774,195, Delaware with 364,400 against 438,452, Steuben with 361,450 against 438,250, Hamilton with only 16,676 improved acres against 766,979 unimproved; then Herkimer with 267,414 of the one, 505,607 of the other, Oneida with 435,800 against 286,594, and Jefferson with 465,222 against 251,291. With the exception of the two last, unimproved lands predominate in the above. Columbia has the greatest proportion of improved lands to her unimproved of all the counties in the State—over four and a third acres to one. Next in this particular, and in the order named, come Montgomery, Dutchess, Albany and Seneca, while Yates, Onondaga, Ontario and Schenectady are nearly in the same proportions, as are also Genesee and Orleans, Monroe and Kings. Twenty-six counties, beside the above fifteen, contain more improved than unimproved lands, although the difference is pro

Capital employed. The total value of farms in 1855 was $799,355,367,* against $554,546,842, in 1850, which although averaging almost precisely the same value per acre in both years, ($29 in 1850, and $29.75 in 1855,) appears to show nevertheless some appreciation in the rate at which improved lands were held, to overcome the considerably larger ratio of unimproved territory reported in the latter of the two years. These values were those at which it was presumed a farm would sell, improvements and all, without reference to the sum at which it was assessed.

The 1,974 acres of farming land reported in New-York county, of course far exceed in average value any others in the State, aggregating $4,324,700. We have not time to work out averages for other counties to compare them all. In each of the following, farming lands are valued at over $20,000,000, decreasing in the order they follow one another from the first two, which are both over $29,000,000:—Monroe, Westchester, Dutchess, Onondaga, Erie, Oneida, Livingston, Orange, Ontario and Cayuga.

The total value of the domestic animals with which the farms of the State were stocked, was $103,776,053, and that of tools and implements, $26,927,502. in 1855, against $73,570,496 for the former, and $22,084,926 for the latter, in 1850. This was at nearly the same average to each farm at both dates, the amount of stock and implements to each in 1850 being $560, and in 1855, $564.

We should like very much to compare these figures with the returns of some county in Great Britain, if the requisite statistics were at hand What the result would be, we cannot tell, but imagine that our English or Scotch readers will be surprised to learn that at so recent a period the average amount of farm capital in a State we look upon as so much advanced as New-York, was only

For 116 acres, at $29.75 per acre,	$3,451.00
For total value of all stock and implements,	564.00
Being an aggregate of,	$4,015.00

Including all buildings and improvements—and that scarcely *one-half* the land was "reclaimed from a state of nature." This would be a little over £800 sterling, and in our paper for Oct. 22 (p. 272) we copied an instance in which more than half this sum (£440) was paid in Great Britain merely for the *manuring* of 140 acres. We refer to this not to argue that what is best in one country, is uniformily best in all others, but rather to call attention to a fact which is often overlooked in talking about "the profits of farming," viz: the disadvantage under which our farmers almost uniformly labor from lack of capital. And we may add by way of parenthesis, that we believe it to be the best policy to accumulate capital by farming a small surface first in the best possible manner, availing oneself of all means of improvement that may be required, such as draining, manures, &c., and gradually extending this thorough mode of operation to a larger surface, instead of being at all the expense with none of the returns of a large farm.

In 12 counties there are over 50,000 head of neat cattle, beginning with St Lawrence, which has 96,408, and going in order—Jefferson, Oneida, Chautauque, Chenango, Delaware, Otsego, Cattaraugus, Orange, Dutchess and Steuben,—down to Onondaga, which has 50,228, and Herkimer with 49,820. These are our great dairy and grazing counties, although several others probably have as large (possibly larger) numbers in proportion to their extent. It is difficult to compare their grazing stock exactly, as the returns specify "the number of cattle *killed* for beef," which of course gives the counties containing cities, where the cattle are

* It may be interesting to compare this sum with the amount of real estate owned in cities and villages. The aggregate assessed value of real estate in 1855, was $1,107,272,715. Deducting from this the reported value of farming property, we have $307,917,348 as the sum representing city and village real estate—in other words, notwithstanding the low rate at which farming lands are held, and the inordinately high prices at which city property has been generally selling, we have in the State nearly $2.60, ($259.60) in the former, for every $100 of the latter. It should in justice be added, however, that a division of the above valuation of city and village real estate, by the number of acres which we have supposed it to include, gives only the very moderate dividend of $236.53 as the average per acre.

taken to be butchered, an advantage in the figures over those in which they were fed. Thus under this head, New-York has 44,405, Albany 11,466, Oneida 15,061, and no other county over 5,000, with the exception of Erie, Rensselaer and Kings, in which Buffalo, Troy and Brooklyn are the markets.

In milk sold, Orange maintains her supremacy. Our New-York readers will derive some comfort from these statistics, as they show that the label "Orange Co. Milk," so often seen, in that milk diluted and bepoisoned city, are not all humbug. She disposes of 4,553,514 gallons; Kings of 3,033,291; Westchester of 2.696,411; Dutchess of 1,970,368; Putnam of 1,888,-910; Erie of 1,173,085, and Rensselaer 1,026,305. In butter making Orange also does pretty well; but five counties do better—St. Lawrence makes 4,268,809 lbs.; Delaware 4,026,575; Chenango 3,990,564; Jefferson 3,949,608, and Chautauque 3,389,837, while the figures for Orange are 3,285,587. Herkimer takes the lead immensely on cheese—making 9,068,519 lbs. Next come Oneida with something over three millions lbs., and Jefferson, Madison and Erie with between two and three million pounds, while Lewis, St. Lawrence, Otsego and Montgomery, all make over a million and a half.

As to other stock, the State owns 579,715 horses, 2,254 mules; of swine 530,176 under the tender age of six months, and 539,616 over it; of sheep 3,217,024, and poultry to the value of $1,076,598. The total number of neat cattle is 2,105,465. Jefferson takes the precedence in horses, and Ontario in sheep. Comparing the total number of lbs. of wool yielded, 9,231,959, with that of the fleeces shorn, 2,630,203, we have an average to each of a fraction over three and a half pounds. Dutchess county lays the most eggs, and Suffolk and Albany come next; Genesee and Queens, however, hatch the most chickens.

Crops yielded. Here the field is so wide that our space will admit of but a few random observations. The number of acres sown to Wheat, both winter and spring, in 1854, was 795,488, and the aggregate yield in bushels 9,092,402, an average of 11 43 bushels per acre. In 1844, the only other year for which we have data of comparison, the area sown was 1,013,655 acres averaging 13 21 bushels per acre—a decrease for 10 years in the average yield, of about a bushel and three quarters, and in the area sown, of 218,167 acres. It should be remembered, however, that the season of 1854, (to which the census returns of 1855 refer,) was one of extreme drought, and that in many iustances the wheat crop was so injured from this cause and by insects as not to be worth harvesting.

We subjoin some figures of the same kind in relation to other crops—all of which must, however, be considered below an average yield—omitting small fractions of acres and bushels:

	1845.		1855.
Oats, acres sown,	1,026,915	....	1,349,384
Bushels harvested,	26,323,051	....	27,015,296
Rye, acres sown,	317,099	....	281,715
Bushels harvested,	2,966,322	....	3,039,438
Barley, acres sown,	192,503	....	212,608
Bushels harvested,	3,108,704	....	3,563,540
Buckwheat, acres sown,	255,495	....	293 233
Bushels harvested,	3,634,679	....	2,481,079
Indian Corn, acres planted,	595,134	....	917,601
Bushels harvested,	14,722.114	....	19,290,691
Potatoes, acres planted,	255,762	....	220,576
Bushels harvested,	23,653,418	....	15,191,852

Rye here is the only crop that seems to have done better in 1855 than 10 years before—the average in the latter year being 10.79 bushels per acre against 9.35 in the former—neither figure, however, exciting our admiration particularly. The average of Indian corn fell off from nearly twenty-four and three-quarters bushels, to twenty-one and two one-hundredths, and that of Potatoes from about 92½ to less than 70.

Of winter wheat, Livingston was the only county yielding in 1854 over a million bushels, and the following counties ranked next in order, all producing over half a million—Monroe, Genesee, Niagara and Ontario. Jefferson and St. Lawrence yielded far the most spring wheat. Onondaga is the great Oat county, producing over a million bushels, while next to her and all over 900,000 bushels, come Montgomery, Oneida, Cayuga and Otsego. Columbia leads in rye; Jefferson, Onondaga, Ontario and Cayuga in barley; Schoharie in buckwheat; St. Lawrence in peas, and Orleans in beans. Onondaga rather takes the foremost rank in Indian corn, and Monroe in potatoes, although the difference is not great, and several others may be larger yielders in proportion to surface. St. Lawrence mows and pastures the largest areas. In Onondaga, Jefferson, Cayuga and Steuben, there had been plowed the year previous (1854) the greatest number of acres.

The State produced 985,522 bushels of turnips, nearly 5 millions lbs. of lint, over 7 millions of hops, and 946,502 of tobacco. Our apple orchards yielded 13,-668,830 bushels of fruit—only about a million and a half less than the product of potatoes—and were responsible for 273,639 barrels of cider. In Market gardens, 12,590 acres were employed, yielding products valued at $1,138,682. We made nearly five millions pounds of maple sugar, and 85,000 gallons of molasses, and collected over two millions and a half pounds of honey.

The value of the Special Manures used in the State, including "guano, gypsum, poudrette, saline compounds, and other substances prepared and sold as fertilizing agents, aside from those ordinarily produced on the farm," was returned at $663,464—a low figure, we should think. Nearly half of this was for gypsum or "plaster," and almost another quarter for guano.

Large Experiments with Chinese Sugar Cane.

MESSRS. L. TUCKER & SON—In your sheet under date of 15th Oct., I see several reports of trials with the sugar cane. Allow me to trouble you with another. Having planted several acres of the Sorghum I procured from Hedges & Free of Cincinnati, a cane mill, with three rollers 32 inches long by 11 inches diameter. Pans and other arrangements, which a novice might deem sufficient, were added, and we waited for the maturing of the cane.

Sept. 14th, we made our first trial. Cut and ground one acre by measurement. The per cent. of juice expressed from the cane by the mill was a trifle over fifty by weight. A load of cane, as it averaged when cut, gave one gallon of juice to eleven canes, and one gallon of fair syrup to eleven of juice. The cane was but fairly in blossom. The yield per acre was precisely 100 gallons.

This trial consumed two days. We then went into the field and spent one week in stripping cane.

Sept. 23d, resumed grinding. Found that our cane had increased very rapidly in its richness. The average yield of syrup to juice, was now one to eight, and per acre 135 gallons thick syrup, and improved in taste over the former. This trial consumed four and a half days and three acres of cane.

Oct. 7th, we resumed our experiments. The seed was nearly and quite ripe. The improvement in quality of juice surprised us all. One gallon of syrup, thick and smooth like honey, to six and one half of juice, was now the result. The yield was one hundred and sixty-two gallons per acre with two acres manufactured.
R. J. WILCOX. *Sheffield, Bureau Co., Ill., Oct.*, 1857.

☞ The Economist reckons the wheat harvest in England this year as nearly or quite eight million bushels larger than in 1856, but thinks farmers will not fail to obtain a fairly remunerative price,—while the quality and weight of the wheat are so good as to justify the expectation that the price of bread may be reduced more in proportion than the price of the grain itself.

Wilmot's Portable Steam Saw, &c.

EDITORS OF THE COUNTRY GENTLEMAN—The Fair of the Am. Institute is now closed, and I cannot but regret that this popular and rational source of enjoyment should cease, even for a season. I have had many rambles through its intricate maze of art and inventions—quite enough to bewilder anybody but a machinist. There was one of those numerous labor-saving inventions, however, exhibited in a distant and retired part of the immense building, which more particularly attracted my attention. This was a *Portable Steam Saw*, invented by Mr. WILMOT, for sawing down timber in the forest, and cutting it into any desired lengths. Certainly for adaptedness to the purposes designed, it can scarcely be excelled. The simplicity of its arrangement is such that any judicious laborer, after a few hours instruction, may manage it with ease. Then its extraordinary portability. I have seen other steam engines called portable, weighing tons; but here is an engine of five-horse power, that a sturdy yeoman will take upon his shoulder and walk into the woods. Two men are sufficient to move and adjust the machine, and when it is once applied to the tree, standing or prostrate, it does its work with surprising rapidity. Less than a minute is required to cut off a stick of two feet diameter, as was repeatedly proved at the Crystal Palace. The boiler is separate from the engine, on iron wheels. The steam is conveyed to the engine by a flexible hose of 100 or more feet. The modus operandi would be simply to hitch the oxen to the boiler car, and drive it to a convenient place in the forest, where it is set down, the engine and hose properly attached, the steam generated by burning wood, either green or dry, and the sawing commenced. The operator who tends the engine, sets upon it at ease, and regulates its motion by letting on or stopping off steam, as may be required. Thus a radius of one hundred and fifty feet may be swept entirely of timber without again moving the boiler. This is effected by the flexible hose, which may be turned in any direction, over the timber and through snow-banks as the case may require. Two men and a boy will cut some thirty or forty cords of wood per day. Two engines may be worked by the same boiler, and with two additional men will cut double the amount or nearly so. The advantages of such a machine in the heavily-timbered districts of our country, must be incalculable. When we consider the immense consumption of wood by steam-boats, railroads, and the various branches of manufacture, and that this consumption is yearly increasing, the mere advantage in saving by sawing is not to be overlooked. The difference between cutting with the axe or saw being about one-eighth, this difference is three-fold when the fuel is cut short for railroad and like purposes. The above named advantages will apply to the manufacture of staves, shingles, &c.

But there is another feature about it which may interest the agricultural reader more; and that is the simple and ingenious manner by which this same engine, by means of a slight alteration, is adapted to threshing grain, grinding, &c. Any farmer whose crops are sufficiently large to warrant the outlay, may thresh and grind his grain without incurring risk by fire, by reason of the proximity of the boiler to his barns or stacks; for it can be placed as far off as he may choose, provided he has sufficient length of hose. If it be desirable, he may have the boiler set in some convenient place attached to the dwelling.

There is a great variety of work which this machine may be made to perform. Drawing out heavy timber from impassable swamps. It may be used in mining; for its small size will allow it to enter any small mining shaft that will admit a man, being only about five to six feet long and eighteen to twenty inches inches wide. That a machine at so small a cost, with such varied powers of performance, should so long escape public attention, is unaccountable. The proprietorship of this invention is now in the hands of the Forest and Agricultural Steam Engine Co., 18 Water Street, Brooklyn. R. M. CONKLIN. *Cold Spring, N. Y*

Sugar Cane for Milch Cows.

I planted 250 hills early, in rich, dry soil, having a southern aspect. The forepart of the season they made a poor show; late in the summer they came forward rapidly. In September a few hills exhibited full developed seeds, on stalks from 7 to 8 feet high. Convinced that none would mature ripened seed before a frost, I commenced cutting and feeding to my milch cows. They soon became very fond of it, eating the stalks with the greatest avidity, and in return giving a most marked increase of milk. Several hills were standing after 'the greenery' of the garden and the fields had been repeatedly *sered* by frost. The cane was much less affected than Indian corn standing near it, and only on the tips of the leaves could I or my cows discern it had been touched.

From my limited one year's experience, I make these deductions:

1. In the valley of the St. Lawrence the season must be *very* favorable and unusually 'elongated' to enable it to reproduce its seed.

2. For soiling milch cows, when pastures are short, it is better than Indian corn, (and perhaps than any other green food,) giving more fodder and more milk, and not being as liable to severe injury from early frosts

3. Therefore, when the seed is not too expensive, 'it will pay' small farmers at least to plant a patch.

As for growing cane *here* for saccharine purposes, where the Creator has placed, free cost, so many of his enduring sugar maples, to so little appreciated purpose, looks to me a little far-fetched. C. T. H. *St. Lawrence Co,, N. Y., Oct.* 17.

Lime and Compost.

EDITORS CO. GENT.—A subscriber and reader of your valuable paper, wishes to use on his wheat land this fall, lime as a fertilizer—please give him the necessary information as to time, manner and quantity to be used. The land to which I wish to apply it is exhausted broom sedg—old fields, gravelly and sandy surface, in North Carolina. The timber on said fields was black jack, post oak, mixed in the hickory. I wish during the winter to make compost manure, with alluvial deposit, straw, or bones and lime. Had I better make it in pens on the field, or in the barn-yard? Any suggestions on this topic would be useful to me, and I doubt not to many others: for if we would succeed as farmers we must make manure, as guano is too dear to be generally used. I don't know but that lime, which has to be brought some fifty miles by wagons, may, like the guano, be too dear. How would it do sowed in spring on the growing wheat before a shower, and how much to the acre? D. C MEBAIN. *Greensboro, N. C.*

Lime, on some exhausted lands, has almost immediately doubled their value—in most instances it has effected a moderate or slight improvement, and in others it has proved of no value. Experiment must be resorted to as the test in such cases. From the character of the soil as described by our correspondent, we think there is strong reason to believe that lime or marl would be quite useful. Whether it would pay to draw fifty miles can only be determined by trial. We should prefer making the compost in the fields, as this would save carting such material twice, as may already exist there—first to the barn-yard, and then back again. The thinner the layers of materials, the less will be the mixing and working over. We should much prefer *autumn* application.

Grafting the Grape.

Can you give me some information in regard to grafting the grape-vine? I have some Isabella and Catawba of strong growth, but do not ripen well in this latitude. If they can be grafted, how and when to be done? G. V. *Louville, N. Y.*

Grafting the grape can be performed without difficulty. First, cut the graft before any preparation for growth has commenced, and keep them in an ice-house or other cool place, until the leaves of the stock have begun to expand. Before this time the stock will "bleed," and prevent so certain success as afterwards. As soon as the leaves begin to open, the bleeding ceases. The grafts are inserted precisely as in fruit trees, and should be done as low down or near the root as practicable. Grafting clay or wax is then applied, and the work is done.

Injury to Apple Trees by the Winter.

MESSRS. EDITORS—Having noticed a statement of Major M. R. PATRICK of Sackets Harbor, in the last No. of the Cultivator, respecting the hardiness of the different varieties of the apple, I am induced to make a statement of my ill-luck with my orchard, from the severity of the past winter. I have lost seven fine bearing apple trees, obtained some years ago from Macedon, and six or eight more badly damaged, but think they will get over it. The first symptom of the injury I observed early last spring, was the bark turning black about the collar of the tree, from one to two feet up the trunk. I took it off, but the distance between the upper and lower bark was too great ever to unite; the trees showed rapid signs of failing, and I took them up to replace them with other sorts. Some were killed outright. The sorts killed were Baldwin, Gravenstein and Northern Spy. Those injured were Hubbardston Nonsuch, American and Summer Pearmain. Those which escaped, Boston Russet, (which stood in a sheltered location,) Esopus Spitzenburg, Winter Pearmain, Rambo, Porter, Rhode Island Greening and many others. The orchard slopes to the west, receiving the cold cutting winds of the north-west—the soil is sandy, and the land is constantly cultivated. I am sorry that Major Patrick did not state where the injury of his trees commenced—whether at the trunk or branch. I omitted to state that on the trees that were injured the bark cracked open badly, leaving the orifice bare to the wood. J. WATERS. *Lanesville.*

Suffolk Pigs.

EDITORS COUNTRY GENTLEMAN—Among the various domestic animals which are of high value to the farmer, is the hog; and in the selection of the breed much care is necessary in order to obtain those which will not only produce the most marketable flesh, but as well those requiring the least expensive feed, both in quantity and quality. The Suffolks will probably rank highest among this class, and may be known by their thin, small ears, short snout inclined to turn up, short legs and small bones. They are thick through the shoulders, very handsomely proportioned in body, and possessing beautiful hams. Their color is either white or light flesh color, when o the pure breed, and are indeed an ornament to the farm.

These animals are less inclined to cutaneous diseases than numerous others, and do not, under any circumstances, produce that strong musky flavored pork we sometimes find in market. They are not a gross unwieldy animal, generally ranging from 250 to 300 lbs. weight at twelve months of age, which latter weight they seldom exceed They are clean feeders, and require much less than any other breed known.

For large hogs, a cross between these and the Berkshire is very desirable, and is preferred by western breeders; but for a small breeder, or for family use, the pure Suffolks are far the most preferable.

Once procure the stock, and the farmer will never have cause to regret having exchanged his old for the new breed. G. F. CONCKLIN. *Amenia, N. Y.*

Planting Peach Pits

MESSRS. L. TUCKER & SON—I see you have an application for advice for planting peach stones. I have succeeded well by making a box 2 inches deep, not water-tight. Put in the box one inch below the level of the ground, and fill with stones—cover the pits with dirt one inch—don't let any snow collect over the box in winter; and when the sprouts begin to break ground in the spring, upset the box and select those that have started. Those that have not cracked themselves, will not grow if cracked, for they are not sufficiently frosted, but will often grow after the second winter's frost. Plant in rows, well manured, four feet apart, twelve to sixteen inches apart in the rows—well plowed and manured and well tended. A SUBSCRIBER. *Newark.*

Sorghum.

So various are the statements of those who have cultivated this plant, that no definite conclusions can be drawn. All represent it as growing from six to twelve feet in height, and yielding from one to two gallons of syrup to the square rod. Generally this syrup is said to have a peculiarity of taste, which makes it superior to good molasses for domestic use.

I have not seen any specimens of sugar made from it; and those who have given most attention to the subject, think that there is some chemical process necessary, before the syrup can be granulated into sugar. As a forage crop, I have seen no evidence of its being more valuable than the best varieties of sweet corn. P. *Essex Co., Mass., Nov.*, 1857.

Corn Husks for Under Beds.

Corn husks for this purpose, are, we think, too generally undervalued, for those who have used such beds for a number of years speak of them as light, cleanly, durable, and generally superior to under-beds made of any other material. The estimate of the value of one such bed made by a lady in a village, who had been brought up in a farm-house in which several such were in use, and who offered a farmer acquaintance five dollars for one well filled, was probably not an extravagant one. And if of this value, might not the labor of children, as also of men and women not more advantageously employed, be profitably used in taking care of that portion of the husks which are best fitted for this purpose?

Those who may be induced to make a trial of this mode of converting husks into most desirable articles of household comfort and convenience, should be particular about excluding all the outer and stiffer husks, allowing none to be put into the bed save the softer and smaller ones. Some strip them with a fork, while others, with whom we should agree, use them whole.

☞ The Vermont papers inform us that at the late Town Fair in Peacham in that State, "two hundred and fifty pairs of oxen, and other stock in proportion," were exhibited, and this, it is supposed, is the largest number of cattle ever exhibited at any one fair in that State.

Use of Salt in Potato Culture.

Messrs. Editors — I now send you for publication in "The Cultivator" and "Country Gentleman," the following

Report of Experiments with Potatoes.—In the latter part of May last I planted my potatoes. I planted some dozen varieties. Some were kept separate, and other varieties were mixed up, some two to three kinds in a single hill, and ten to twelve kinds in a square of four rods. Some were large and some small; some were cut and others were planted whole. Some were planted with salt and some without salt. Some of these different varieties were among the most hardy, and many others were of the class most subject to the "rot."

Salt and lime were put in some hills, but salt alone more generally was used. The amount of salt used varies from two to four quarts per square rod, with or without lime, and either of which was scattered in the hill or sowed broadcast at the time of planting.

Aspects and Results.—In consequence of the near proximity of the lime and salt to the seed, many of the hills did not come up or sprout until from two to three weeks later than those potatoes which were planted at the same time, without lime or salt, and some few hills never vegetated. But when the others did come up and grow, they had a fresh, deep green appearance not common to the unsalted potatoes, that promised increased hardiness and vitality, recovered in some degree.

This aspect continued during the entire season of their growth. Therefore when the "blight" came it appeared upon potatoes not salted in all this region, from "three days" to three weeks *sooner* than it did upon those potatoes that had been cultivated with salt.

The foregoing may sound like a sweeping statement that needs qualifying. [It is now the 21st day of Oct., and some of my potato tops are still *green*, stalks, leaves and all, having stood four or five severe frosts!]

The "rust" *first appeared* upon my white varieties planted without salt, soon after inflorescence, and the rot followed about the 20th of August, and hardly left enough for seed

From the 1st to the 15th of September, all my other varieties except *one*, met the same fate as it respects the *rust* and dying of their tops, including the "Sand Lakes." The rot upon the last named variety, where salted, was not more than one in 500 to the sound ones. But the yield in the sound ones was not more than one-fourth the amount produced by the same variety last year on the same ground, (or 50 bushels per acre) I believe that had my "Sand Lakes" been kept separate from all other varieties, they would have stood the blight far better, from the fact that my toughest variety "Jenny Lind," wilted down soon after the "Sand Lakes," in a few instances, where a few hills or rows of them were planted among other varieties, by way of experiment.

But those Canadas (alias Jenny Lind) that had been assorted, and grown isolated from all other varieties, were those only, whose leaves and even stalks were not both dead and dry, even to the roots, by about the middle of September. The 39 hills of my Canadas that had their tops continue green up to the 21st day of October, when I dug them, occupied about one square rod of ground, and yielded 1¼ of a bushel, or about 200 bushels to the acre, at the same rate; and they contained three defective tubers only. [The "potato disease" is *highly infectious*, and may be spread or checked by a great variety of causes.]

A Fact.—"R. R." of the town of New-Hartford, Ct, planted early a single variety (Sand Lakes) in his garden, in a good, rich sandy soil, and sprinkled a teaspoonful of salt upon each hill as soon as the tops appeared above ground, and gave them clean culture, (three hoeings,) and now he has in his cellar some 20 bushels of smooth, ripe, mealy potatoes when boiled, as the result. The number of defective tubers found among them when dug, was very small. This gentleman thinks that had he sowed on, say one bushel of salt, before he plowed his garden, every tuber grown in it might have been sound. These 20 bushels grew upon less than 20 rods of ground, and their tops died down not until arriving at maturity.

Another Fact.—E. W., who lives but a stone's throw from the above named gentleman, this season has planted some 20 bushels of potatoes, upon about two acres of land, and has hardly got so much as the seed he planted, and wonders at the superior "good luck" of his neighbor R.

From all quarters reports come to us, too numerous to detail, in favor of the use of salt this season, for growing potatoes upon a dry or sandy soil. This shows up the *necessity* of underdraining wet soils, to secure the best results from the use of salt or any other fertilizer, in growing all crops whatsoever.

Now if any one has experimented with salt in growing potatoes on a dry or sandy soil *this* season, or at any time without *any* success, let the facts in any such case be given at once to the good public, and the modus operandi, with the name of the variety planted.

My experiments have all been made upon a small scale, for the *sole* purpose of evolving the truth, that I might show the *cause*, or at least the *remedy* against the "potato disease"—that great "mystery of mysteries" of the present age—and establish in the minds of thinking men the great law of agricultural science, for the benefit of the present and all coming generations.

Improvement.—From the foregoing experiments, we derive the following axioms:

1. That salt as a fertilizer *ascends* from the soil.
2. All *strong* fertilizers should be put some inches *below*, never *above* the *point* of *early* vegetation.
3. By *reversing* this law, many crops are *injured* or *destroyed* every year.
4. Each variety should be preserved *pure*, by being planted *isolated* from every other variety of the same species.
5. No potato should be planted without first being *cut* into from two to twenty pieces.
6. Plant upon *dry* warm soil only.
7. Put from two to four *chits* in a hill.
8. Salt should be put as *low* in the soil as any other fertilizer; but the chits should be put near the natural surface.
9. Plant the chits in hills two and a half by three and a half feet apart.
10. Give each hill a teaspoonful of salt when the *dew is on*, as soon as the tops appear above ground, or before the first hoeing, and repeat the same at every successive hoeing.
11. If the theory of the "blight" be *correct*,—that a small worm, not discoverable by the unaided eye, is present through every stage of its progress,—the *timely use* of salt is no doubt the *grand remedy*.
12. Plant the genuine old-fashioned Blues, from which to obtain balls to renew and improve "the seed," which is now so often "rotten under his clod."
13. The potato, *no less* than the asparagus, is a *salt plant*.
14. No crop of potatoes should be raised without putting *in* or *on*, from five to twenty bushels of salt to the acre.
15. To use five bushels of salt to the acre, to raise a crop of potatoes *every year*, is better than to give *twenty* bushels of salt to the same once in *four years*.
16. We have observed the contagion transferred from dying tops to thrifty ones the past season, when growing *near* each other, and of different varieties, by the worms and insects which fed upon them; and for this,

if for no other reason the different varieties of potatoes should be grown far separated from each other, to avoid the contamination of the blight from this cause.

17. All potatoes, if *ripe* and dug in good weather, *will* be mealy and *crack* in boiling.

18. But few of my potatoes have this *essential* quality this season; but the Jennies having their stalks and leaves *green* into Oct., began to crack when boiled.

19. I pronounce this last named variety *best* for two reasons—1st. They are a hardy variety, and grow through the season—2d. They get *ripe* and *mealy* if grown upon good warm soil, and planted early.

20. To obtain new and improved varieties plant seed from the balls. First salt the subsoil, then add other manures, and cover the whole with from three to five inches of good earth; sow the seed in drills near the surface, from twelve to fifteen inches apart in squares, and cover lightly with earth.

21. When the sprouts appear above ground, sift a little fine salt upon them when the *dew is on*, as you would plaster, ashes or lime, and repeat the same at every hoeing.

22. No manure can be well prepared for the land without the use of salt, and no land can be well fitted for any crop without the *use* of salt more or less

23. As a fertilizer and vitalizer, salt has *no equal* in the kingdom of Nature.

24. Salt *ascends* from both the *earth* and *sea*, and thus becomes the *only true* expounder of all the phenomena of Nature.

25. Salt is the most indispensable of all fertilizers; and yet it requires more than *any* other fertilizer a *dry soil*, to *show up* its fertilizing power upon *one* year's trial. Salt, if used in any considerable *quantity*, should be put down to the sub-soil, or be turned under by the plow. Its *chilling effect* should *never* come in contact with *any seed* in the earth, before it vegetates. Rich, warm *earth*, is the only proper deposit of any seed *before* it germinates. Young plants of any kind, require only the "sincere milk" of rich, warm earth; but the "strong meat" of powerful fertilizers, should come in *contact* with plants, or their roots, only at the advancing stages of their growth, and become most abundant as they *near* maturity, and *feed* upon the *subsoil*.

26. Deep culture is the *true* philosophy of good husbandry; but it cannot *succeed well*, except it be upon a *dry soil*, and hence the frequent *necessity* of underdraining our lands to obtain the dry soil required.

27. If salt will aid the Canadas to grow through the the season, and keep their tops *green* until the 21st of Oct., as it has done in my field this season in spite of Jack Frost himself, and with less of the rot among them than was the case last year, upon the *same* ground, I am satisfied that no *one* thing that I have tried, has ever done my potato crop so much good as salt; and I am of the full belief that it *will*, if properly applied, *prevent* if not *cure* the "potato disease" entirely, at no distant day. [The *chief* difficulty lies in its *right* application.]

28. The white varieties rot the *worst*, because they are the *class* that have been subject for the *longest* period to *bad* cultivation. And as it must be a work of time to reclaim them, it is better to depend upon the most hardy varieties, with good culture, to preserve and restore the potato to its former hardiness and soundness.

Query?—In this latitude who has had potato tops, both the stalks and leaves, continue *green* this season beyond the 21st of Oct, as some of mine *did?* If there is such a case, we hope to see an account of the same in the "The Cultivator," giving the *name* of the variety, the mode of *culture*, and the quality of the *soil* it was grown upon.

The soil I cultivate is *moist*, resting upon a bed of clay or hard-pan, and needs underdraining. I have raised better cabbages, better onions, better beets, and better turnips, *this* season than *ever* before, and upon land *well* salted. One turnip weighed 9¼ lbs. My largest potato weighed but 17 oz, but it was a *sound one*. My carrot crop suffered from the *blight;* the season being so *wet*, the soil on which they grew became too cold and heavy to bring forward this crop without the aid of underdraining or a dry season. A more detailed account of the manner of cultivating my root crops would extend this communication beyond its proper limits, as it has accumulated already beyond my first intention. Should you favor us with its insertion in your valuable papers, we may try again. J. C. CLEVELAND. *Torringford, Ct., Oct.* 28, 1857.

Note.—If the "potato disease" *comes* and *goes* in the atmosphere, why do not the same varieties of this plant, with or without salt in their culture, in different fields and planted the *same day*, wilt down at the *same time*, instead of three days or three weeks apart, or *not at all* until the frosts of October *cut* them down? Is it not plain as the light of day can make it, that the legitimate effects of wrong culture, predispose the potato to become a prey to disease, from a great variety of other acting causes, *aside* from bad culture? Well has the poet said, and most timely and applicable in this case, as we humbly conceive:

> "*Where* grows? where grows it *not?*
> If vain our toil, we ought to blame
> The *culture, not* the soil!"

Doubtless there may be many conflicting opinions and theories, in regard to my assumption that salt is the CHIEF FERTILIZER. Nevertheless, if our theory is truth, it can but enhance the interest in that other important branch of Agricultural Science, the *necessity* of underdraining.

> Potatoes RIPE, ne'er rotted from disease,
> Those only rot, that never ripened be;
> To GROW or ROT, are Nature's firm decrees;
> Soon shall mankind this truth most plainly see,
> And harmony prevail when all agree. J. C. C.

On Cutting Hay for Stock.

MESSRS. TUCKER & SON—Our crops being pretty much secured, it now becomes us to make the best of them. How is that to be done? I find some of your correspondents recommend cut feed, and some doubt the utility of cutting it. I believe in cutting feed for cattle at any time, and I know by my own experience that it is a great saving in fodder. I bought a cutting box two years since, and the first year I used it faithfully, and my cattle never did so well before. Towards the fall of the year, when pasturage got short, I used to give them half a bushel of cut hay each, wetted with a little sprinkling of salt and meal—the meal not more than a bushel and a half for 10 head a week, and I never made so much butter in a fall before, and my cows seem to relish this feed very much. This year I neglected to do it, and I fail in butter very much—but this year we have had more wet, and the grass has been more flashy, and therefore they more needed it. But my machine works hard for one man, and our boys do not like the business..

I have Stephen's Book of the Farm, and I find on page 135, second book, and plate 23d, the horse wheel, all lettered off, but no description given, though it seems to be simple of construction, and it appears to me to be just the thing the farmer wants, but where or whether they are manufactured now I cannot tell; therefore wish for information.

I keep a yoke of cattle, and at this time of year they have to werk. If you give them a lock of dry hay they will show at once that they do not relish it, and as they feed but little in the night, when turned out on to the wet grass, they will fall away on this feed; but cut their hay fine, and sprinkle it with water and a very little meal and salt, and they will do well. This I know from my little experience. A WORKING FARMER. *Morris, N. Y.*

The Horse Wheel, described by Stephens is not to our knowledge in use in this country.

Winter Mulching Trees in the West.

V. ALDRICH, of Bureau Co., Illinois, a skillful and successful cultivator, in a recent letter, gives the following interesting and valuable statement of his experiments in relation to the preservation of trees through winter, which are especially worthy of the attention of western fruit men. Doubtless many if not all the failures of dwarf pear trees at the west, might have been prevented in the way stated by our correspondent. Caution will be required in all winter mulching not to provide a harbor for mice, by carefully avoiding much straw, and using nearly clear manure where these depredators are abundant—or else by first making a small steep mound of earth around each tree, and then placing the mulching outside this mound. EDS. CO. GENT

We had four acres of young nursery stock nearly or entirely killed out last winter; our ground had been cultivated with small double shovel plows, and left very level. The heavy thaw, accompanied with heavy rains last February, beat the dirt away from the young trees so much, that with the hard and sudden freezing, we think was the cause of their destruction. If the earth had been thrown up to the young trees in the fall with a mould-board plow, so as to raise a ridge around the trees, and left it quite low between, we think it would have been of great advantage.

Mulching, we find very great advantage from; last fall our dwarf pears in our garden were well mulched, except one row of ten, that was not convenient to get to with the wagon. Those mulched have made a fine growth, and most of them fruited well this season; those that were not mulched, blossomed and partly leaved out and then died. On examining them, we found they were all killed in the root, not the top; they were all Dwarfs on the Quince root. We mulched part of our orchard trees last fall in the same way. Those mulched have grown remarkably well this season, with dark luxuriant foliage; those not mulched were in considerable numbers killed in the root—showing that apple roots are not all of equal hardiness. These we speak about had been transplanted three years, the ground kept cultivated. We intend to mulch all of our orchard trees this fall, as well as all newly transplanted. Some may ask, "What good can mulching do?" To such we would answer, that when the ground is once frozen under it, it remains so all winter, and will not freeze so deep as where there is none; that the roots of trees remain frozen and in one dormant state all winter, and lose none of their vitality. On the other hand, when not mulched, the frequent thawing and freezing in the winters we are subject to here in the west, is very injurious to the roots of fruit trees, and this will account for the death of many trees.

We hear many persons say they had fruit trees die, and could not find any cause for it—all looked well above ground. It is within the reach of all farmers to mulch their trees. How much more pleasure and profit they would reap by carting and placing their manure around their fruit trees, than as many do here in the west, let it lay round their stables year after year, and then say, "I can't raise an orchard, and we believe our climate is not adapted to fruit growing." We have many things to learn; and those that use energy and perseverance will succeed. Fruit trees will flourish here in the west where there can be a good crop of corn raised every year, wet or dry, and no mistake. Most people from the east undertake to raise fruit trees here with high heads as they do east in their native hilly and woody country. Here on our broad prairie they should be headed very low down, and not thinned any more than cross limbs cut out; when they fruit the top will open sufficient for light and air.

There is no one knows so well the lack of knowledge among people generally as does nurserymen—to hear so many questions asked about trees and fruit, you would think every boy a dozen years old ought to know. We were last week exhibiting fruit at our county fair—some old grey-hairs would come up to our grapes and ask, "What kind of *plums* are them?" "They are not plums, sir, they are grapes." "Wall, I never see any before; be they English grapes?" Another would want to know if they were *tame* grapes, &c., and so on from morning till night. If all those persons could be induced to take a good agricultural and horticultural paper, what a vast deal of improvement we might see in ten years. I do not wish to be understood that our people are all like those mentioned, but very far from it.

The Chufa or Earth Almond.

U. S. PATENT OFFICE, October 17, 1857.

MESSRS. L. TUCKER & SON — I observe in a late number of the "Country Gentleman," some remarks censuring this Office on its introduction of the Chufa, implying that it is identical with the Nut-grass. I beg leave to inform you that you are not alone in this conjecture, as communications have been received from various quarters, contending that they are both one and the same plant. But in every case where we have attempted to refute this error, the parties have been satisfied that they are widely different, both as regards their mode and period of growth as well as their economical value. In two instances, one in Maryland, the other in South Carolina, the two plants were cultivated side by side, with the object of determining their identity. In both cases they were admitted to be different,—the Chufa proving to be an annual, having been entirely killed by the frost, and the Nut-grass a perennial. Although the blades of the two plants very nearly resemble each other, their tubers are quite different in size and shape; those of the Chufa being oblong, and those of the Nut-grass round and even oblate in form. If you are not convinced with this explanation, I will send you samples of the tubers of both by mail.

I would call your attention to an error in your reference to the Patent Office Report for a description of the Chufa, as being for the year 1854 instead of 1855. At page xvii in the Report for 1854, it reads:

"In order to remove any prejudice which may exist in supposing that it (the Chufa) is identical with the creeping Cyperus, (*C. repens*,) or Nut-grass, which is found growing wild on the banks of streams, in pastures, and cultivated ground from New-York to Florida and Louisiana, I would state that the latter differs essentially from the Chufa in its height, as well as in the size, shape, and color of its spikelets. The roots also contain many fibrous branches, often terminating in edible tubers about the size of a pea, creeping continuously along with and just below the surface, and send up numerous suckers, which are regarded by Southern planters as a great scourge to their crops. The Chufa is quite different in this respect, only throwing up several stalks from one root like the common potato, but does not spread."

Allow me to inform you further that the Chufa is considered of such importance to the United States, that this Office has ordered one hundred bushels from Spain for distribution the coming season. It is found to thrive extremely well on meagre soils, particularly on light sandy land where few if any other crops will succeed. The blades serve as excellent forage for all grazing animals, and the tubers are eagerly rooted out of the ground by swine, which fatten upon them as readily as upon mast. Very respectfully,

D. JAY BROWNE.

Successful Culture of the Onion.

LUTHER TUCKER & SON—M. D. B. inquires in the Country Gentleman of Oct. 1st, for information on the culture of the onion. I will try and give it. I commenced the business six or seven years ago, and have grown them in considerable quantities ever since, with first-rate success, having raised as high as fourteen hundred bushels per acre, though the general average is from eight hundred to one thousand.

My soil is swamp muck, mixed with clay or upland to give it solidity, and enable it to retain moisture, so that the young onions will not be burned up by heat. My plan is this. In the fall after the crop is off, I throw the ground into beds of three or four rods in width, by back-furrowing with two horses, plowing to the depth of eight inches or more—(the deeper the better if the soil will permit.) Then cart on from twenty-five to thirty loads of well decomposed manure per acre, spreading it evenly from the wagon on the plowed surface, and let it lay till spring. As soon as the frost is out and the ground dry enough to work, if the manure is rather coarse I plow it again with one horse—harrow lightly, level down, and sow in fourteen inch drills, from four to five lbs. seed per acre, using hand sower, and either marking the rows with a four-tooth marker, or running the machine along a line. After the seed is in, I pass the marker lengthwise the rows, bottom side up, and finish up with the hand roller.

The after culture depends almost entirely on the weeds, for they must be kept out whether few or many. For cleaning between the rows I use the push or scuffle hoe, which any blacksmith can make by the following directions: Take, say an old shovel blade, and cut off a piece ten inches long by two wide, and bring both sides to an edge, working from the upper part of your hoe so as to have the lower side flat, and rivet on to it a pronged iron like fork tines, to attach the handle, bending the tines so that with the handle in the hand in a proper position for working, your hoe will set perfectly flat on the ground, and you have a tool as far ahead of the clumsy things you get at the stores as could be desired, and with which when sharp, a man can take out every weed to within an inch of the rows, over from half an acre to an acre a day. Pass the hoe through as soon as the rows can be seen, if there is any weeds, and then again before you commence weeding, if necessary, and keep it going as often as the weeds appear; for if they once get matted, it will take something besides hard swearing to subdue them.

The rest of the weeds must be taken out by hand before they get much size the first time. Afterwards they may be allowed to get larger, as they pull easier, and rather benefit the crop by removing the dirt from the onions. Top dress with ashes after the second weeding, sowing broadcast thirty bushels to the acre.

I grow two kinds—one early, the other late; both red, and good yielders—getting my seed when I do not raise it myself, from Comstock, Ferre & Co., Weathersfield, Conn., which never fails to come up.

If M. D. B. will follow the above directions, I will warrant him a good crop—but he must not expect, if his ground is upland, so large a yield, as no soil can compete with our bog meadows.

One word about "special manures." I have used guano and poudrette, and am sorry to say they are far behind barn-yard manure—in fact the more I use special manure, the more I am convinced that we must look to the barn-yard and pig-sty for food for our crops If one-half the money expended for advertised humbugs was applied to enlarging the manure heaps, farmers would be better off, and speculators on their credulity get less of their hard earned cash. A SUBSCRIBER. *Chester, N. Y.*

Preparations for Winter.

Even thoughtful, careful, provident men, will sometimes forget some of the several "fixings" which are usually needed to be made about every house, cellar, barn, stable, &c., before the setting in of winter. We recollect one such man, who having other business to attend to besides that of his farm, was overtaken by winter for several years before he had attended to fixing up all of the jobs and chores which needed to be done. This neglect happened from forgetfulness, or from not thinking of the several matters at the right time. After finishing the more urgent portions of fall work, he would say to his hands or to his family, after enumerating a number of things that needed to be done or attended to before winter,—"Now don't let us forget any of these." But by being gone a good deal from home, it came to pass that some jobs were forgotten by his help and family; and even when but little absent, these things were neglected still. Annoyed by these neglects, he adopted the plan of jotting down on a page of his memorandum, a list of the several matters which needed to be attended to, setting them down one after another, day by day, as they happened to occur to him. This plan proved much more satisfactory than the usual method of trusting all such things to memory; and we have mentioned the particulars of the case with some details, because we have hoped to make those whose unfaithfulness of memory has proved productive of similar results and similar annoyances, say to themselves, "That's just like me," or "That's my case exactly," and be the more ready to make a trial of our friend's method of improving his memory.

The same method might be adopted with advantage during the winter, in regard to work, experiments, and everything else which happens to be planned or projected for the coming season, during the long evenings and the comparative leisure of winter. If not jotted down, several things which were thought of during the winter will be forgotten, or neglected in the hurry of spring work. A minute or two will serve to make a memorandum of any work, job, experiment, or fixing of any kind, which may be planned or projected for the coming season, and the minute thus employed may save hours of vain regret or distressing annoyance, or serious loss. Let those whose memories have sometimes served them but poorly, try this plan.

While preparing either for your memory or your memorandum, a list of jobs to be done this fall or before winter, do not forget to consider what should be done if the roof has a leaky spot, or if frost finds its way into the cellar, or if there are any loose boards about barn or sheds, or if your shelter for your stock is not as good as it ought to be. All these and much more should pass in review before the mind.

Protection from Bloody Murrain.

PREVENTION BETTER THAN CURE WHEN CURE IS IMPOSSIBLE.—Having spent thirty years in Wilmington, Loraine Co., Ohio, I learned by salting cattle regularly twice a week on the ground, in the same place, that they would lick out a perfect dish in that clay soil, and entirely prevent the bloody murrain, a disease which I am prepared to show it is impossible to cure. JUDSON WADSWORTH. *West Winsted, Ct.*

Gapes in Young Turkies.

EDITORS CO. GENT.—In No. 235 of your paper, date July 2, some one inquires for a cure for gapes in turkies. The following I have found an effectual remedy: Give a few drops of sweet or lamp oil, and follow with a strong solution of alum. Repeat the dose if necessary. ONE WHO HAS TRIED IT. *Racine, Wis.*

Letter from Canada.

CONTRAST LAST SEASON AND THE PRESENT—DRAINAGE—MANURES, MANURE-TANK AND DUNG-PIT.

The harvesting is now over, with the exception of roots. The present season, in Lanark county, Canada West, has differed from the last, which was dry, while the present has been favored with regular rains—occasionally heavy. The hay last year was not plentiful, and prices rose to $20 a ton; the present price is about $8. Last season from fifteen to eighteen bushels of wheat was an average crop. It ripened early, and although the straw was short, the grain was excellent, and there was but little refuse grain. This season the straw is much heavier—there is about the same average of good grain, and much refuse grain. On thrashing out, the yield has been less than was anticipated and the grain is not so bright in color.

Last season, therefore, the cultivated acres gave out their power in forming seed, and drew strongly upon the phosphoric acid in contact with lime, derived in this region chiefly from the manures of the barn-yard, raw bones, small quantities of phosphorite and a few other stones, ashes, straw and such like. For the present the Lanark farmer has not access to the markets where he can procure bone-dust, guano, oil-cakes, &c., at rates which would be remunerative. A railroad is now building, and in a year or two it will be a question with him as to how far he may go in purchasing these articles. My present impression is, that a small proportion of them used for enriching or forcing qualities may be profitably used in combination with the home produced manures, but that he will have to learn the art of producing the best he can find on his own premises, and rely on it for his supply.

Unless the farmer therefore replenished his seed producing land of last season with active manures, he should expect to find his return this year consist in a more plentiful production of straw and leaves than last season, and not a corresponding production of plump, heavy grain. The rains, containing ammonia, and the necessary elements to plants found in water, have of course contributed to the productiveness of the present harvest. But deficient drainage and imperfect tillage, have had their counteracting influences.

Too many farmers are still impressed with the idea that drainage is only useful in low wet grounds, overlooking the advantage it confers in admitting the air with its beneficial elements into the soil,—in carrying off the rain and other waters after its benefits are conferred, and in keeping the land free and sweet to the plant. The same good effects are in a measure produced by good tillage. In a dry season like the last, we require these agencies, and much more so in a rainy or wet season like the present. They both aid in bringing the food contained in the air, the moisture and the soil, to the roots of the plant in a wholesome and effective state for use.

A number of your correspondents treat on the subject of manures, and afford to your readers what may be designated the conclusions derived from a miscellaneous experience The art of manufacturing food for the sustenance of the various plants we raise, does not appear to be reduced to any thing like a system that can be carried into general use. A few establishments produce and sell specific and artificial manures, all of which contain more or less valuable forcing ingredients. Where they are easily accessible to the farmer, it is worth his while, to ascertaim chemically and by analysis, their value, and if afforded at rates which he can pay with profit, he will be relieved from one of the sources of difficulty to the farmer, who wishes to conduct his business successfully and profitably.

It is laid down by the best of authority, that one of the primary and most important tasks which the farmer should impose upon himself, is the preparation of suitable conveniences for the preservation and manufacture of manure. These embrace the dung-pit, with its attendant draining-tank. It would extend this letter to an improper length to include here the directions which are given as to the mode of construction, plan, and manner of using the pit, and the processes observed in the preparation and preserving of manure. Having called attention to the matter, perhaps some other pen of leisure will be good enough to take up the subject and give brief directions in these matters. More anon. W. O. Buell. *Lanark Co, C. W., Oct*, 1857.

Keeping Roots.

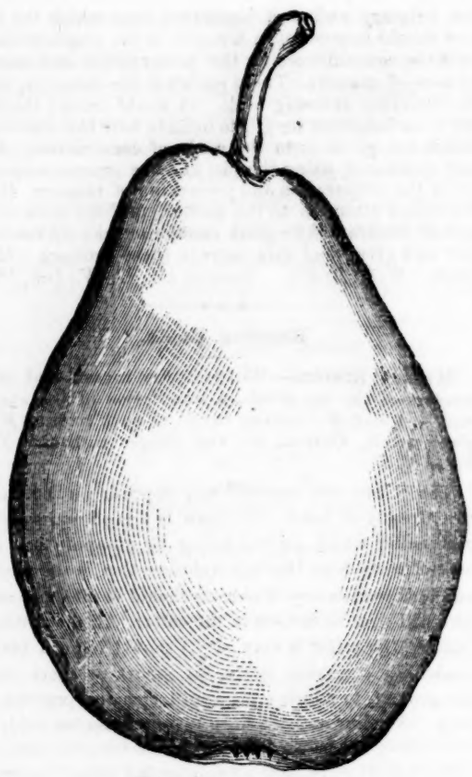
Messrs Editors—Will you give myself and other readers of the Co. Gent., a description of the easiest and best way of "*taking care*" of such roots as Mangle Wurtzle, Carrots, &c, and oblige S. B. C. *Yonkers, N. Y.*

The "best and easiest" way depends on the facilities already at hand. If there is a good and spacious root cellar which admits filling by dumping the cart load of roots down through a shute—that is the easiest, and is as good as any. The roots should be clean, or much dirt will thus be thrown in the cellar. All the root bins, (unless the cellar is very dry,) should have a bottom made like a wooden grate, six inches or more above the ground, to admit some ventilation and prevent rotting. A cellar under a barn is sometimes too cold, the floor above not being sufficient guard from the frost, the upper apartments, as in a dwelling, not being kept warm by artificial heat. It is generally best, therefore, after the roots are stored in the barn cellar, to place upon them two or three feet of straw—which may be best done by so constructing the barn that the refuse straw from thrashing may be deposited upon the roots, or a portion of it.

If no cellar is to be had, the roots should be placed in long heaps, say three feet high, and covered with straw and then with earth. If straw is scarce, and only two or three inches in thickness, (packed) can be applied, the earth should be nearly a foot thick to exclude frost But it is much better to have more straw, and if it is a foot thick, only 2 or 3 inches of earth will be required. Ventilators, consisting of holes in the top, made by a crowbar, and partly filled by wisps of straw, should be placed every few feet. If the subsoil be porous, so that no water ever accumulates in it, a trench may be dug a few feet wide and a foot or two deep for the roots—this will render covering easier, and better protect from freezing. Or, a trench 6 to 10 feet wide may be dug in such soil, and three or four feet deep, covered with a slab roof, and a few inches of turf. This will hold a great quantity, and the roots will be very accessible.

To Drive Away Rats.

Some years since a correspondent of the Boston Cultivator recommended potash for this purpose. The rats troubled him very much, so that he felt justified in resorting to extreme measures to effect their expulsion from his premises. He pounded up pot ash and strewed it around their holes, and rubbed some under the boards and on the sides where they came through. The next night he heard a squealing among them, which he supposed was from the caustic nature of the potash that got among their hair, or on their bare feet. They disappeared, and for a long time he was exempt from any further annoyance.



The Ontario Pear.

We have received specimens of this fine new native variety from W. T. & E. SMITH of Geneva, N. Y. It is a vigorous and productive sort, and promises to be valuable for market. The quality is "good" or "very good"—not quite equal to the Virgalieu or Doyenné in its high aromatic flavor, but well grown and well ripened specimens are not much inferior. In form it considerably resembles the Bartlett, but is of smaller size, and we are informed it is a seedling of the Canandaigua; if we were to guess its origin, without any knowledge except from the specimens, we should think it was a cross from the Bartlett and Doyenné.

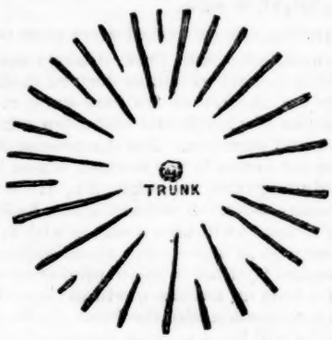
Fruit medium or rather large, oblong-pyriform, sometimes very faintly and obscurely ribbed, and generally somewhat irregular. Skin pale yellow, with numerous very small dots. Stalk about an inch long, mostly curved, with a fleshy ring at base, and inserted in an irregular depression. Calyx open or partly closed, in a wrinkled basin. Flesh white, buttery, becoming melting, with a rather sweet, mild, pleasant agreeable flavor. Ripens a little before mid-autumn.

AN ALBANY HORSE.—"Henry Clay," owned by Messrs. Rogers & Co. of this city, received the first prize at the Springfield National Show, in the class of stallions over seven, over the famous "Old Morroll" horse which took the second. John A. Hemmenway's "Black Hawk, Jr.," took the first prize in the class of stallions under seven and over four years old The second prize was given to a fine horse, "Columbus, Jr," owned in Orwell, Vt. There were over 20 entries in this class, and it is no small honor to carry off either of the three prizes. "Green Mountain, Jr.," owned in Montpelier, Vt., took the third prize.

Renovating an Old Pear Tree.

MESSRS. TUCKER & SON—Can you or any of your readers, tell me how to give new life and vigor to an old pear tree? It does not seem to be affected with the *blight;* the trunk is sound and appears healthy, and the fruit is perfect and of good quality. But there are hardly any young shoots and no thrifty ones, and the old limbs are dying and dropping off, and unless something is done for it, it must soon be among the things that were. I am anxious to make an effort to save it, as it is one of the *first settlers,* and the "oldest inhabitant" remembers it in his youth as a thrifty bearing tree. E. J. P. *Tanglewood, Oct.,* 1857.

We know of nothing better than *manuring*—which may be performed by digging narrow radiating trenches from within a few feet of the trunk, directly from it—this will prevent cutting many of the roots. The annexed diagram (Fig. 1,) will show the position of these trenches.—These may then be filled with a *compost,* made of turf, stable manure, ashes, and perhaps a little bone manure—the turf to be the chief constituent, say one-hal or two-thirds—and the ashes say one-thirtieth. The bone manure is not essential, as its constituent parts are in common manure in small quantities. If this is done in autumn, the roots will be prepared to penetrate it early in spring, and if the tree is not past recovery, it may make a new push. The roots probably extend as far each way as the height of the tree, and the trenches should extend about as far. They need not be cut very near the tree, as the roots are all large there, and would be more likely to be injured and would be little benefitted. The trenches should be only the width of a spade, and may be two to four feet apart

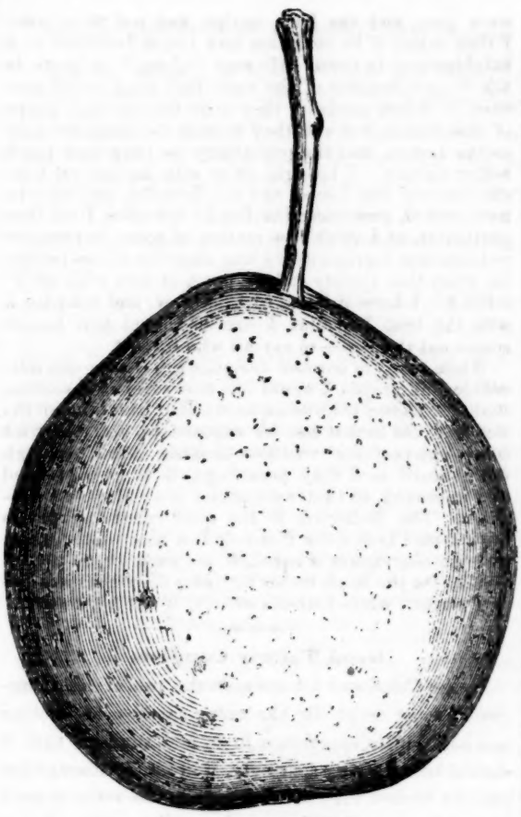


(Fig. 1.)

How to Make Lard Candles.

MESSRS. EDITORS — Having been the recipient of many favors through the columns of your invaluable publications, I propose as far as in me lies, to cancel the obligations already incurred, and as the first installment, I shall offer a recipe for making hard, durable and clear-burning candles of lard. The manufacture of lard candles is carried on to a considerable extent in some of the Western States, particularly Wisconsin, and being monopolized by the few has proved very lucrative. The following is the recipe in to-to To every 8 lbs of lard, add one ounce nitric acid; and the manner of making is as follows: Having carefully weighed your lard, place it over a slow fire, or at least merely melt it; then add the acid, and mould the same as tallow, and you have a clear, beautiful candle.

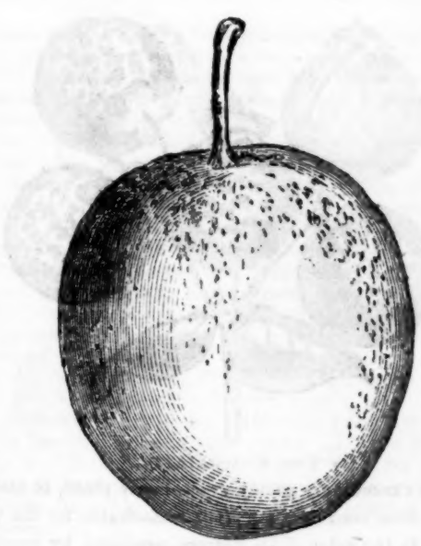
In order to make them resemble bona-fide tallow candles, you have only to add a small proportion of pure bees-wax. J. A. ROBINSON. *Belcher, N. Y.*



Des Nonnes Pear.

Of this pear, described by Charles Downing as *Beurré de Brignais*, we have been furnished fine specimens by THORP, SMITH & HANCHETT of Syracuse, who have fruited it for several years. Should it prove *always fair*, it will undoubtedly be a great acquisition. They have stated that it is a vigorous grower, good bearer, and that it succeeds finely on the quince. We know of no pear that, all things considered, has a more delicious flavor than the specimens sent us. It is exceedingly delicate and melting, and has just enough of that peculiar perfume of the Seckel, and the sweetness of the Washington, to make it eminently agreeable We have never tasted a Belle Lucrative better. Charles Downing says that it has not a high flavor—hence we infer that it is variable, and if so, its value must be greatly lessened by this characteristic.

In size, it is medium—form roundish turbinate, obtuse. Skin greenish yellow, becoming a clear yellow, with numerous greyish brown dots—sometimes with a faint tinge of red towards the sun. Stalk an inch and a half long, moderately slender, set in a slight depression. Calyx rather small, often closed, in a small, wrinkled basin. Flesh juicy, and exceedingly melting when at perfection, very sweet, perfumed, and with an exquisite flavor—"best." Ripens rather before mid-autumn. It is probable that its extreme delicacy requires that it should not only be well grown and ripened, to attain its highest perfection, but that the precise point of maturity should be chosen when it shall have attained fully its fine melting texture.



The Fulton Plum.

Fruit rather large, oval, rounded and full, suture a a mere line, skin a rich yellow, mottled, dotted, and blotched with red towards the stem. Stem three-fourths of an inch long, in a narrow, distinct cavity. Flesh yellow, juicy, with a very rich, high vinous flavor, adhering to the stone. "Very good." Ripens late and hangs long.

The specimens from which the drawing was taken were furnished by JOHN WILSON of Albany. Charles Downing says the origin of this plum is uncertain—that it was found at Johnstown, Fulton Co., N. Y. The tree is said to be vigorous and productive, and it must prove one of the most valuable new sorts.

Cider Champagne Wine.

MESSRS. EDITORS—I see in your paper an inquiry, "How to make Cider like Champagne Wine." I think I can give it an answer, as I have some experience on the subject.

Take some late apples, well ripe; press them into cider; boil it in a copper kettle for about ten minutes; skim it well while it boils; then barrel it like common cider, keeping the barrel full. At the end of the winter, before the second fermentation has begun, get enough strong bottles, as strong as possible, large or small—old porter bottles will do as well as any—and bottle all your cider, leaving a small space between the cider and the cork—in a long-necked bottle, at least 2 1-2 or 3 inches—tie a good string over the cork, and lay them down on a shelf in a cool cellar.

Cider treated in this way, will make a splendid drink in the course of the summer, sparkling like champagne wine. I do n't know how long it will keep, as we always got through our supply in the course of the year. A. CHAVANNESS. *Knoxville, Tenn.*

Keeping Cider Sweet.

A pint of mustard seed, put in a barrel of cider, will preserve it sweet for several months. I have drank fall cider in the month of May, which was kept sweet by this means. J. W. L.

The Calceolaria.

This exceedingly pretty green-house plant, is easily raised from seed in pots. It is remarkable for the varieties in the color of its flowers, produced by successive sowings, which renders it one of the most beautiful ornaments of the green-house.

New American Grapes—The Louisa.

[The following extract from a private letter from THOMAS M. HARVEY, of Chester county, Pennsylvania, dated 10th of 9 mo., 1857, in relation to some of the new American grapes, cannot fail to be interesting to all cultivators of this valuable table fruit. Our correspondent is an intelligent and enthusiastic pomologist, and has on trial on his own grounds, and occupying ten acres, over 400 varieties of the apple, 500 of the pear, over 100 each of the peach and cherry, 75 of the strawberry, 35 of native grapes, &c.—his object is to select the best, after thorough trial, from this vast multitude. EDS. CO. GENT.]

Knowing that J. B. GARBER of Columbia, Pa., and SAML MILLER of Lebanon, Pa., were equally, if not more so, with myself interested in native grapes, I made them a visit last week to see their progress.

I found friend Garber quite a pioneer—having many of the new ones in fruit, and very many seedlings under way, raised from seed sent him from various sections of the Union, but chiefly from the South and West. Contrary to my expectations, I found the grapes from the South quite hardy, while the *Canadian Chief* from the North, is a failure with us all. The plants started well in the spring, but when hot, dry weather set in, the foliage fell a victim to mildew, and finally the plants are all gone.

Friend Miller is a younger man, and his vines are generally not so far advanced; but he possesses energy and ambition to carry him through with his experiments with all the natives of any merit. He has a seedling (noticed in the Horticulturist of last year, page 484,) that I think worthy of a general trial. I found the original vine growing in his door-yard, in the sod, without any prepared border, and two cherry trees growing near by to rob part of the native nourishment. I was disposed to give the fruit a hard test, and, if possible, not to set it above our old Isabella and Catawba. The latter was running on the same trellis, but, as a common thing with us, was badly mildewed; while the *Louisa*, as he calls his seedling, was loaded with fine bunches, entirely free from mildew, rot, or any blemish. I next asked for Isabella, to compare it with—was shown to his vine, but the bunches were poor, and the fruit unripe, and not fit to taste. I then asked if he could not find better Isabellas at a neighbor's or in town. He sent "John" in haste to ask "some bunches of the very best they could procure." When received, they were fine for that grape of this season, but still they were not so large nor good as the Louisa, and the probability is, they had much better culture. I brought away with me several bunches each of the Louisa and the Isabella, and all who have tasted, pronounce the Louisa the best. I am thus particular, as I think it a matter of some importance to introduce a grape every way superior to the Isabella, when that variety fails so much of late with us by rotting. I have it home with me now, and compare it with the best Isabellas I can find, and still Louisa comes out the best—so say all who taste it.

While many of our new varieties are coming out miserable Fox grapes, I would like to say from this section, that the *Diana* is quite an acquisition, standing all the wet and cold that it can be exposed to, and the fruit comes out very fine—without blemish. And although the Concord is of foxy parentage, it is quite refined and improved, so that we consider it a valuable acquisition. The *Delaware* is the most refined grape we have tasted here; the *Cassady* is a nice white grape, and the *Garrigues* is equal, if not superior, to the Isabella. On the same trellis this year Garrigues was fine and perfect, while Isabella nearly, if not all, rotted.

Good Tallow Candles.

In the Cultivator I have seen the use of rosin suggested as an article for hardening candles. My mother has had a little experience in it, and suggests that it should be used very sparingly, if at all. Although her candles burned very brilliantly, yet the rosin seemed to generate too much heat, causing the candle to run down, and of course to waste away very rapidly.

We use alum for this purpose; also beeswax if we can get it, and think it both economical and gives a clear light. In dipping candles, we add the beeswax when partly done, that it may form a coating on the outside. J. B. *Chatham Center, O.*

Inquiries about Butter Making.

MESSRS. EDITORS—Being a new subscriber to your paper, as well as a new beginner in farming, I wish you or some of your correspondents to answer the following questions, which have doubtless been answered a dozen times already in your columns, viz:

What is the proper temperature for cream to be in at the time of churning?

Is there any "aromatic flavor" or anything else which it is desirable to retain, washed from butter by washing in clear spring water?

What is the proper depth to set milk in pans to obtain the greatest amount of cream?

I have often read that milk should be skimmed before it sours, but I find the cream is thicker to let it stand till the milk thickens, and it will *roll* off from the top. Will it not make more butter, and is it not of as good quality?

With a good churn to go by wind or water, would it not be more profitable to churn the *milk* than to set it for cream, in a dairy of ten cows?

I have a cow which occasionally (say once or twice a month) gives curdled milk from two of her teats. What will cure her? A MORGAN FARMER. *Iowa.*

We shall be pleased to hear from any of our readers in answer to the above inquiries.

Preparation of Feed for Cattle and Horses.

MESSRS. TUCKER & SON—I have read Mr. COLBURN's partial reply to the inquiry as to the utility and economy of cutting hay, straw, &c., for stock, and agree with him as to the economy of cutting feed for horses, but not as to corn and rye being the best kind of meal for them. I propose, therefore, to give you a little of my experience in feeding horses and cattle on cut feed.

I have cut feed for two pair of horses for the last ten years, and some part of that time more. I use my horses in the lumber business, keeping them in the barn the whole year, and feeding cut feed the whole time. I have tried feeding one-third corn meal, two-thirds bran—also corn and rye after Mr. Colburn's mode—and oats and rye, two-thirds oats, one-third rye, and corn clear from any other grain; also rye, clear, as well as oats, and have come to the conclusion that first and best of all is the mixture of oats and rye. My reason is, first, that it is less liable to injure a horse. You may feed him all he will eat, without any fear of colic or founder. Corn meal and rye is a dangerous feed in the summer season, unless used by a careful horseman. As to the corn and bran, horses are very subject to the colic with it; at least that is my experience with it; but I work my horses very hard in the lumber business, and have to feed at least double the amount Mr. C. speaks of. I suppose he had reference to common farm horses, which would be sufficient, I think; and horses on a farm are not so liable to disease from over-feeding, as teams in the lumber business. I use a little salt in every mess I feed—a small handful to a team; and as to using warm water to mix feed with in the winter, it is not necessary in my judgment; the feed will not freeze in the manger while he is feeding.

I agree with Mr. Colburn in the use of good oat straw, but rye straw I think is much better. I frequently mix half hay and oat or rye straw, and my horses do well on it. I have one team whose combined weight was, when weighed last, 2,950 pounds—one was weighed alone since, and weighed 1,500. This team usually travels 24 miles per day, and their average load of lumber, green hemlock from the saw, is from 1,600 to 2,200 feet, supposed to weigh from four to six tons; and they have lived altogether on cut feed as above described. The distance of travel is twelve miles loaded, and the return, making twenty-four in all.

My experience on the utility of cut feed for cattle, has been the same length of time as with horses. I keep two yoke of oxen in the barn the year round, as I do my horses, and work them every day that it is reasonable for cattle to work, and feed them cut feed altogether, and I like corn and oats ground for oxen the best—about one-third corn and two-thirds oats, ground fine, *not chopped*, and feed according to my work. If the work is severe, feed the more. I cut straw altogether for my oxen, and they do well. In the spring I cut green fodder a little—rye as soon as it is headed out, and green corn fodder as soon as I can get it.

My experience is the same with other farm stock. I cut all my feed for common farm stock, and my mode varies with the different kinds. To my cows I give a little bran or meal; but lately I live near a distillery, and draw still slops and feed it to my cows in this wise: Cut the straw and stalks, and give each one a basketful in her trough or manger; then pour about two common pailfuls of slops on it, and mix. In this way your cows will come out right in spring on that quantity three times per day, and the women will not be complaining that their cows give no milk If you do not live convenient to a distillery, a little meal, say 4 quarts oats and corn, three times per day, will tell the same story. I have kept young stock through in good order, on straw, wet with a very weak salt brine only.

I would add a little in regard to the length of the straw and hay to be cut. For horses I prefer three-fourths of an inch in length to any other; for cattle, not shorter than one inch and a quarter, or one and a half I like the best. For cattle there is one difficulty I have to contend with in cutting feed, and that is the cutting machines are all so poor that it is difficult to keep them in order for cutting feed. I have tried a great many of the different kinds, and do not get a first rate machine as yet. I am using two at the present time called the Eagle Cutter, manufactured at the Buffalo Agricultural Works, Buffalo, to which I give the preference over any that I have ever used. I saw one on the Fair ground at Buffalo at the late State Fair, that suited me, although too heavy for common hand use, and think it the best I ever saw. The description of it I will not undertake, but leave that to the inventor, or some other person. I must conclude, by hoping that some other person will give a better and more profitable experience in the matter of cutting fodder for horses and cattle. WM. WINSPEAR. *Winspear, Oct.* 13.

Preparation of Tripe.

MESSRS. EDITORS—I am aware that tripe is a subject which few persons have much sympathy with, or relish for; and as to the idea of using it as an article of food, that is utterly repugnant to their tastes; yet the idea of it being unfit for food, I think is wholly imaginary, for the individuals who discard it have no compunctions about eating a piece of boiled liver—the heart when boiled, and served up cold, or made into mince pies is excellent—and a cold tongue is considered a choice morsel. The reason why tripe is generally rejected, is because it is one of the inner parts of the beef; and the filthy manner in which it is often treated, is enough to make it repulsive to any one. Yet most persons, when a dish of tripe that has been carefully cured and well cooked, is set before them, eat it and call it excellent. The same objection might be made against the other parts mentioned, and with equal propriety. I contend that if proper care is used in preparing and cooking tripe, it is just as clean, healthy and nourishing, as any other part of the beef. It is presumed that most farmers who fat and kill their own beef, throw away the tripe because of their ignorance of how to clean and prepare it.

The following method of cleaning and preparing tripe I have tried successfully, and prefer to any other way that I know of. When the paunch is taken from the beef, care is used to keep it clean, and as soon as it is emptied, it is washed in clean water till it is clean; if it is cold weather, it is put into warm water and soaked a short time, when it is cleansed in this way. Have a kettle of boiling water ready; take the tripe and cut it into pieces small enough to handle conveniently; then take a piece and hold it in the water till it is scalded so that the skin will start, when it should be laid on a table and scraped with a knife till it is thoroughly clean; proceed in this way till it is all cleaned. It should then be put into cold water and remain a week, the water being changed every day.

It should then be boiled till it is so tender that a straw can be run through it easily. While it is boiling, a small quantity of saleratus should be put into the water, for the purpose of sweetening it and to make it tender. After it is cooked, it can be pickled to suit the taste of those who use it.

In this way it may be prepared in a way, which, if suitably cooked, will make a dish of food equal in every respect to any part of the beef. C. T. ALVORD. *Wilmington.*

Preparation of Feed for Cattle, &c.

The economy of cutting hay, straw and cornstalks for cattle, is a question I thought long since settled, at least by our eastern farmers, where those three articles are always marketable at remunerative prices, to those whose land does not require manure. Those who wish to make manure, will find it cheaper to market them in their own stables. It is better than purchasing special manures. To western farmers, who do not move their manure, of course the case is different. Every farmer knows what an annoyance cornstalks are in a manure heap, when thrown there after the leaves have been eaten off. Then, when on the ground with the other manure, they cannot be plowed in, and in using a seed-drill or harrrow you draw them again on top. Keeping them clear of the drill and harrow will consume more time than would pay for a corn-stalk cutter. My practice is to cut them. After the cattle have fed on them, throw them into a heap, and throw some horse manure on them; then another layer of the cut stalks and manure. They will heat and decompose directly. Aside from this, I have proved cut feed better for all cattle, and decidedly the cheapest.

Having kept from twenty to thirty fresh cows in winter, I tried a good many experiments to see which was best, but having mislaid my daily journal for the year in which I made the experiments, I cannot give you the particulars; the result, however, was that since then I have adopted the following plan of feeding:

One part cut cornstalks, one part cut straw, and one part cut clover hay, (saved in the manner I recommended in a previous number.) These I throw into a large bin or trough, mixing all well up together, sprinkling a sufficiency of water on to dampen them, and from two to four quarts of shorts per head. This allowance must be regulated according to the quality of your feed —ground corn and cob, ground rye, ground oats and wheat bran—I allow with this, half a bushel of boiled roots per head, either mangel wurtzel or ruta baga, and to every three bushels of roots one bushel of carrots. This I find gives the milk a good color, also the butter. When the roots are out, I use oil meal, a sufficient quantity to allow for the roots, (roots are the cheapest.) In boiling roots, care must be taken not to boil them too soft; let them boil until you can leave the impression of your finger on them; before boiling, cut them with a root-cutter or chop with a spade. This mixture I allow to stand twelve hours before feeding.

In feeding, I give those that give most milk the most feed, all cattle not eating alike; the object is to keep them in one condition while they are giving milk. If you give more than is required to produce milk, it will go to flesh and stop the milk. When they fail in their milk, and your object is to fatten them, keep increasing your feed as your animal increases in flesh. If you intend keeping for calving, reduce your feed so that you keep her in sufficient flesh for that purpose.

Middle of the day I give them clover hay in the stalls, and oat straw at night, sometimes changing to oat straw at noon and clover hay at night. In fattening steers and oxen I pursue the same system, except in the quantity given, and middle of the day I give them from one to two bushels of ruta bagas, as they are better for flesh than mangel wurtzels, and mangel wurtzels are much better for milk than ruta bagas. I give them all the oat straw and cornstalks they will eat. Over-feeding must be avoided, as that is as injurious as half-starving. A good rule is, keep them hungry. When you feed them, see that they eat with a *will*—if not, take part of it from them, and give them less another time, until you get them on a good appetite. As to the exact quantity of feed each animal should have, it is a thing no one can give directions for. I have never had one pair of cattle eat alike. Every man must be his own judge in this, to feed to advantage to himself. If profit is no object, why it matters not how you feed them.

Dry cattle in winter, I keep on cut hay, cornstalks, and straw, mixed with cut roots, (raw,) never using corn if I have got roots; if I have not roots, I sprinkle the cut feed with corn In cutting fodder for cattle, let it be at least one inch long—if shorter it injures them. In cutting for horses and mules, it should be cut short, say quarter of an inch, mixed with ground rye, oats and corn. This is good feed; but when at hard work they should have oats middle of the day, (half a peck. Crushed oats are a great saving to the oat-bin, and much better for horses than whole oats. It takes them less time to feed—consequently gives them more time for rest—old horses particularly, as they will swallow the grain without chewing, which can be seen in the manure. It is the general practice in Europe to feed crushed oats. I have tried to get an oat-crusher at a good many of our agricultural warehouses, but could not procure one. I think if they were to import some, and have them made here, they would meet with a ready sale, as all who studied the health of their horses would use one. GERALD HOWATT. *Newton, N. J.*

Experiments in Potato Culture.

EDITORS CO. GENT.—After one of the most extraordinary seasons on record, as concerns the soil and all proceedings connected therewith, we are at last approaching the confines of another year. The quantity of rain which has fallen this summer, has far exceeded the usual bounds not only in Rhode Island, but over most parts of the United States. And now the first crop to which we may pay a little consideration, is the potato. Really one approaches this question with a mixture of doubt and sorrow. The rot has made its appearance here in Cumberland county this summer, but on the whole I think has not done as much damage to the crop as was expected.

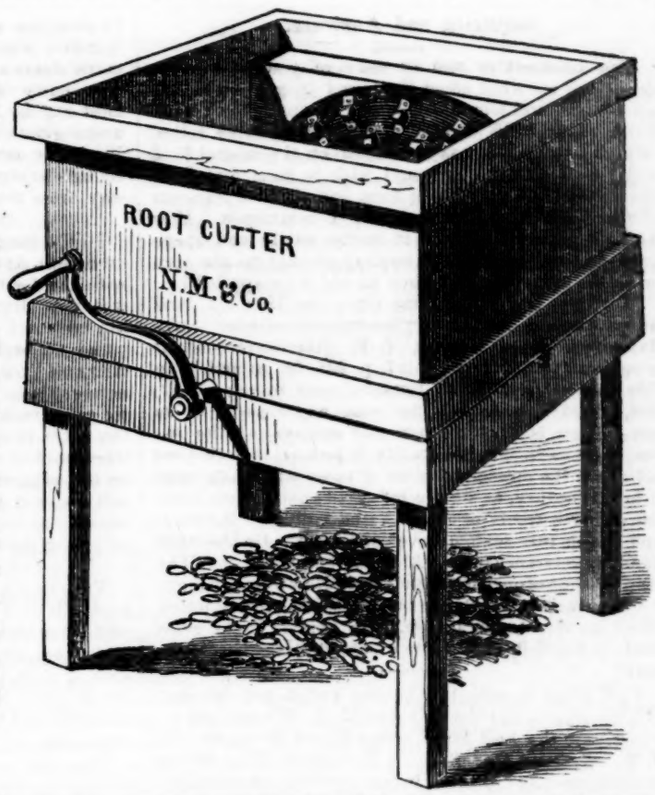
I propose now to give you an account of a few experiments that have been made in this village this season. Mr. GEORGE DANA plowed his land early in April, having first given it a good dressing with barn-yard manure—the seed, Canadian Reds, were planted 18 inches apart in the drills, the drills 30 inches apart—planted two eyes in a hill, and manured in the hill with plaster of paris and salt; the plaster and salt were not mixed, but applied separately some distance from each other. This crop was hoed three times—produce, 286 bushels per acre of as fine potatoes as ever grew out of doors. Kidneys, treated same as the above, an excellent crop; some of them measuring over six inches in length. Prince Alberts, treated as the rest of the crop, an excellent yield; some of them eight inches in length. I ought to say that they are all free from rot or disease.

THOMAS GELDRED'S land plowed in April, without manuring—planted some Prince Albert potatoes in drills 32 inches apart and the sets 12 inches apart in the drills—planted two eyes in a hill, and manured in the hill with plaster, lime and salt; some, however, he manured with backhouse manure fresh from the privy. These were the handsomest of the lot—produce about the same as Mr. Dana's.

But the most astonishing of all, were some Dovers grown on a quarter of an acre of land belonging to ROBT. LEES of this place, by John Paul. The land before plowing, received a good dressing of stable manure from horses fed with oats, hay, &c. The seed was planted in drills 36 inches apart, and the sets 18 inches apart in the drills—planted on the Howatt system, from some of the largest seed Mr. Paul could procure—produce 60 bushels, by far the greatest every known of this kind in this part of the State.

I had half an acre of land plowed in April, without

Willard's Patent Root-Cutter.



This cutter is a recent invention. It cuts vegetables very rapidly, and in slices thin and fine enough for sheep, lambs, or calves. It is very easily operated, so that a boy can turn the crank rapidly. The inside arrangement is such as to prevent all liability of clogging the cutter while working it, and the knives are easily repaired. The vegetables, after having been passed through the Cutter, may be mixed with straw, coarse hay, or other cheap forage which one would like to dispose of economically, and the mixture, after lying a little time, so that the forage may become impregnated with the juices and scent of the sliced roots, will be greedily and wholly consumed by the stock. Pumpkins are easily cut with this machine, so as to be conveniently and quickly cooked for swine. It is made by NOURSE, MASON & Co., Quincy Hall, Boston—price, $10.

manuring, for potatoes—planted one-third of it with cut sets, two eyes in a hill, the hills 24 inches apart each way—manured with plaster in the hill—one-third planted with middling sized potatoes, manured with hen manure and plaster applied in the hill—the hill 30 inches apart each way. The remainder of the land was planted with large whole sized potatoes, 36 inches apart each way. This plot received no manure whatever. Each crop received four hoeings from my wife, she always attending to these matters, I being at work from home at the time. The cut sets were soiled up till they were five inches deep—the middling sized potatoes five and a half inches deep, and the large whole potatoes, after the last hoeing, were four inches deep. All the potatoes planted were Dovers. The potatoes were dug in September. The large whole potatoes, without manuring, produced by far the greatest yield. This I think was owing to the great distance apart from plant to plant, and their not being buried so deep as the other potatoes P. SIDEBOTHAM. *Valley Falls, Rhode Island.*

The Dioscorea Batatas.

MESSRS. EDITORS—"Cooper" is informed that the Dioscorea may be planted the first year in any moderately good soil; they will go down about six or eight inches; but the second year he ought to trench at least three feet in depth, and I doubt not they will go as far as he will, if he digs even deeper than that. I trenched something more than two feet for mine last spring, addding hog manure all the way down, and down went the "Batatas" until they struck a stone in the gravel below, and there of course they had to stop. The fact is not (as stated last season) that the same tuber grows from year to year, but the tuber planted decays the same as the common potato; but unlike the common potato, it does not yield more than five tubers for every four planted. This for the second year; perhaps they will do more the third. Last season mine were about three-fourths of an inch in diameter, and from eight to ten inches long; this year two and a half inches in diameter, and more than two feet long, and like the Texian corn that, besides several "rousing" ears along up the stalk, had a bladder on top with several quarts of shelled corn in it, so my Batatas had several dozen of small Batatas, not growing in the ground, as represented last season, but "high and dry" a foot or more above it.

These little tubers are the seed of the Dioscorea—the same as the "ball" to the common potato, and it takes two or three years to perfect tubers from one the same as the other.

I am not certain but they may be successfully crossed with Lima beans; and if so, I shall enter them for competition with those potatoes mentioned in the Gentleman some time since, that are "supposed to be crossed with the blood beet." I might spare a few of them (I mean the suppositious hybrids) to the respected editorial fraternity, but speculators couldn't have any of them.

My impression is that "millions will not be made" by the first cultivators of this "yam;" but they are very good, and will, I think, be cultivated to some extent; but they have first to "conquer a peace" for themselves, and the amount of conservative blood which we have inherited from our English ancestors, makes this no easy matter. I invest slightly in all novelties of this kind, and whatever may be said on the subject in hand, I suspend judgment until I have ocular testimony; and as I experiment, not from speculative motives, but to arrive at the truth, of course I am never disappointed.

In my farther experiments with the Dioscorea, I shall plant my small tubers three inches apart in drills; the next season plow deeply or trench, and plant a foot apart. As the long slim neck of the full grown tuber is worthless for cooking, I shall cut them off for seed, and I think they will be as good for that purpose as the whole tuber. Thus much for the present; but, good friends, it takes four years and a deal of patience to thoroughly test any new thing, whether a Batatas or a friend. E. Y. B. *Meriden.*

Inquiries and Answers.

GAS LIME.—Can you or some of your correspondents, tell me what effect lime used in gas works has upon crops, and how much should be applied per acre. I can get some 15 loads for the drawing three miles. *Will it pay?* What says S. W. J. on the subject? I will give it a trial, but would wish to hear first from those who have used it; or from one of the Professors of Chemical Agriculture, before I commence. How would it answer to spread it in the cattle and sheep yard, during winter? If applied directly to the corn or potato crop, how and when should it be applied?

We have had great rains since the 18th ult., and wheat has both root and top enough this season. JOHN JOHNSTON. *Near Geneva, N. Y.* [Our correspondent is referred to Co. Gent., vol. 7, p. 201, for an article on this subject from Prof. JOHNSON, and to pages 272, 304, and 314, same vol., for some experiments in its use. There is much difference of opinion as to its value, some deeming it actually injurious, and this we believe is the opinion of most of those who have used it in this county, as we are informed that our gas company offer it freely to any one who will cart it away, and at this rate seldom have calls for it. On the other hand, by reference to page 314, Co. Gent., vol. 7, it will be seen that one of our correspondents in New Jersey bought 2,400 bushels at 5 cents per bushel, carting it five miles, which he used to advantage. He applied it to grass lands in the fall, at the rate of about 30 bushels to the acre.]

☞ What is gained by having a winnower attached to a thrasher—and are they durable? Where, and by whom, are the best lever-power thrashers made. B. J. T. *Grundy Co., Tenn.* [The object of combining the winnower and thrasher in one machine, as we understand it, is that it thus accomplishes both operations in about the same space and time, and by the same power, that would be required by the thrasher alone. If properly constructed there is no waste of grain, as might result from rehandling it. The combined machine may be taken to the field with as little trouble as the thrasher only, and the grain is there bagged ready for market, and needs no further manipulation. As to the comparative cost, we presume the combined machines are generally more expensive than simple thrashers and separate fan-mills. As to their durability and the quality of the work they do, we shall be pleased to hear from those who have had experience There are three houses largely engaged in their manufacture in this city, either of which would be happy to send our correspondent descriptive circulars, on application. They are, Emery Brothers, Wheeler, Melick & Co., and R. H. Pease.

WILD MEADOWS.—Can you inform me of the best method for converting wild meadow land into good cultivated meadow? There are about 200 acres which I want to improve. A creek runs through the land which floods it at intervals. This I am trying to remedy by lowering the bed of the creek and drainage; but I am not certain as to the kind of seed to sow, nor the further treatment of the land. The land is intended for a stock farm, and I want the meadow to produce good winter feed for the cattle. JAS. WADDELL *Brooklyn, N. Y.* [We are unable to advise our correspondent satisfactorily from a want of knowledge of the condition and soil of his "wild meadow." *Timothy* is best on *well drained* wet lands; *red-top* on those not quite so well drained. The surface must be first mellowed, either by the plow or harrow, if it can be done, and the grass seed harrowed or brushed in early in autumn or early in spring.

NEW ROCHELLE BLACKBERRY.—Can you or some of your subscribers give me a little information in regard to the Lawton Blackberry? How is it propagated? I have some, but they don't multiply by suckers; they throw out branches close to the ground. Will these, by covering with soil, make roots or layers? JOHN PARRY. *Fort Edward, N. Y.* [Cutting down the *main stems* will cause them to throw up suckers, to be done early in spring. Nurserymen propagate them most rapidly by pieces of the roots, with bottom heat under glass—either in a hot-bed or propagating house. We lately saw a fine block of fifty thousand, large enough to set out, raised last winter and spring in this way, from the pruned roots of plants sold.]

☞ I have the first three numbers of the REGISTER OF RURAL AFFAIRS (paper covers.) Will you exchange with me for the bound volume, and what difference will you charge? [Several inquirers on this subject are informed that we cannot make the exchange proposed. The bound volume as now issued ("RURAL AFFAIRS") is published in much more expensive style as regards paper and presswork, so that the difference we could make, would be nearly or quite consumed by the extra postage to be paid on the copies sent back. The simplest way will perhaps be (if we may venture on the suggestion, to send us $1 for a copy of the new edition, and to put the numbers already received on missionary work, in the community, either by lending or giving them away.]

FLEAS.—In answer to your correspondent on the topic Fleas, I may suggest a method of catching them, and when caught, he can adopt the Frenchman's mode of killing, or any other he may choose. Procure a pair of Rose blankets with long nap; substitute them for sheets to the bed; the legs of the fleas become entangled, and they are at your mercy. ONE WHO HAS TRIED IT.

INQUIRY.—I wish to inquire of you or some of your numerous readers, whether there is a remedy to prevent a horse from throwing his tail over the reins? I have a valuable mare, which has this disagreeable and dangerous habit, especially in warm weather. During "fly time," her tail is in constant motion, and if she chances to throw it over one or both of the reins, she hugs and holds it tight, and at once commences to *run*. She is very true and kind in every other respect. If any one could tell me of a remedy, or what to do to prevent her from running, he would confer one of the greatest favors. B. E. H. *Prospect, Ct.*

IMPROVED CATTLE.—*H. H. A., Ridge Farm, Ill.* The questions you propose for discussion, in relation to the best breeds of cattle, mode of keeping, &c., have all been extensively treated of in this paper during the past two years, and a number of it seldom appears in which there is not something pertaining to these matters. We may say, however, that were we seeking for a supply of cattle for a farm in your locality, our first object would be to procure the number of cows we wanted by selecting the best we could find from among the number of grade and common stock to be found in the vicinity Next procure the services of a thoroughbred bull, either Short-Horn, Hereford or Devon, and we should have no fear of a failure in raising up a good herd from them.

INQUIRIES.—Can you inform me if there is a paper issued treating on making harness—also one on building wagons and sleighs. Also is there a book giving a thorough system on the culture of the tobacco plant? If there is, where can it be had, and the price? A SUBSCRIBER. [We know of no papers of the character specified, nor do we remember any book devoted solely to the culture of tobacco.]

LOPPED HORNS —I have a very nice pair of yearling steers; the nigh one's horn is lopping down very badly. Can you or some of your experienced subscribers, tell me how to remedy it? I have heard that scraping the horn would remedy it, but do not know which side to scrape it on. A SUBSCRIBER. [A correspondent, in a

former vol. of the Cultivator, says "that lopped horns may be raised by taking sharp glass, and scraping the horn on the under-side of the top, and for two or three inches from it. Scrape it thin, but not so as to cut through it, and then oil with sweet oil. Repeat the operation in three or four weeks, until the horn is raised as high as is desired. It will not fail, nor injure the horn."

UPRIGHT QUINCE.—Can you inform me if the Rochester Upright Quince has ever fruited 'in this country, and if it has, how it compares with the Orange Quince in quality, &c.? W. F. *Lake Co., Ill.* [We are unable to give the desired information.]

BIRD INQUIRY.—I have a beautiful gray Parrot—a great talker and highly prized, who has for months past, plucked its feathers as fast as they grew. If some of your readers could tell me how to cure him of this habit, they would greatly oblige. J. F. C. W. *Nebraska City.*

WARTS ON COWS.—W. A. H. asks a cure for warts on cows. Apply a few drops of nitric acid to the wart, two or three times. Use it carefully, and avoid putting it on the bag. I have always found it effectual. They are sometimes removed by tying a strong thread around them; but the acid is better. A SUBSCRIBER. *Jamaica Plains, Mass*

DRAINING.—Please tell me, did Messrs. Elwanger & Barry place the drain under the row of trees in their orchard, or between the rows? I have seen a notice of it in Country Gent, but cannot find it—probably before I became a subscriber. I want to plant an orchard, and before I do, I want to drain. Please tell me the best way. C. E. R. *Davenport, Iowa* [We do not recollect the mode adopted in the case referred to, but we should much prefer placing underdrains mid-way between rows of trees, for two reasons—1st, if the trees stand directly over the drain, there will be danger of the roots running down and obstructing it when the trees become old, as has been found to be the case in some instances with tile drains. Secondly, it is the space *between* the rows, that we expect to cultivate for the benefit of the trees, most of the fine roots (those which require feeding) not being *in* the rows but between them; this work can be best done where drainage is most perfect.]

COLD GRAPERIES.—Will you or some of your subscribers have the kindness to reply to the following inquiries:

1. In glass graperies, are the vines planted with the main stem entirely within, or is the foot allowed to be out?
2. Are vines planted on *both sides* of the building?
3. How far apart are they planted?
4. After being in bearing, how are they pruned and trained? Do you leave long bearing branches (or canes) or short spurs?
5. When no artificial heat is given, are doors ever left open to give air, and are the glasses ever raised?
6. Are the leaves and fruit ever syringed? If so, when, how, and how often? Is the earth within the house ever watered? How often?
7. Are the vines manured every year? How, and with what compost?
8. Are any other plants allowed to grow within the house?
9. Are the sashes to be left on during winter?—at the south?
10. Which are the best grapes for that particular culture—of course of the European?

If one or several of your correspondents would answer to the above queries, and give any other suggestions they might think of, they would confer a great service. A SUBSCRIBER. *Woodward, S. C.* [We shall be pleased to hear from any of our readers in answer to the above inquiries. In the meantime we refer our correspondent to pages 254 and 302, current vol. of this paper, where he will find answers to several of his queries.]

SUGAR FROM SWEET CORN AND APPLES.—Where can I obtain some of the sweetest kind of sweet corn, that will yield the greatest quantity of sugar from the juice of the stalk? [We have found the stalk of the Chinese sugar cane to furnish a much greater quantity of saccharine matter than that of any variety of sweet corn, and would recommend it as best for this purpose.] I have heard of a kind of very sweet apples, whose cider or juice would make good molasses with little boiling. Where can the scions of such kind be obtained for grafting? JOHN MIX. *Waterbury, Ct.* [Probably the Tallman Sweeting is equal to any variety for this purpose—many other sweet apples are nearly as good. Boiling down *sweet cider* is a poor way of making apple molasses, and furnishes a poor article. It is far better to steam the apples soft, and then press out the juice and boil it.]

GAS LIME.—In your reply to JOHN JOHNSTON'S inquiries, I notice that you refer indirectly to a former communication of mine in vol. 7, page 314 of Co. Gent., in regard to the use of gas lime, and it may now be a suitable time to correct an error that occurred at that time in the figures. The lime was applied at the rate of about *eighty* bushels per acre, not thirty, as it was printed. Having a field of about twelve acres to lime this season, I inquired of a lime dealer in our town, with a view of getting gas lime. He had none at the time on hand, and finding that it would cost me so nearly the same as the best Schuylkill, I concluded to substitute the latter. My own opinion is, that there is no better lime for the land than the pure oyster shell. As it acts quicker than other lime, its effects are not thought to be quite so lasting, and it may be applied in rather a larger quantity. The chemical change which this lime undergoes in purifying the gas at the *Philadelphia gas works*, I am unable to state. It cannot, however, be one rendering it injurious to the land, or the farmers in the vicinity and on both sides of the Delaware, would not be so disposed to monopolize its use as they now are; and were *it* offered *freely for the carting*, I rather think some of the *soil* would be likely to go with it. Of the lime from other and distant gas works, of course I know nothing. C. *Near Salem, N J.*

POLL EVIL.—*N. S R, Gratiot, Mich.* For all the information we can give you on this subject, see answer to another correspondent in the Co. Gent. of Oct., 8, p. 236, or Cultivator for November, p. 342.

TO PREVENT HORSES THROWING THEIR TAILS OVER THE REINS.—In answer to B. E. H., in the Co. Gent. of Oct. 29, with regard to a horse throwing his tail over the reins, the remedy is to nick and dock. If well done, there will be no more trouble in that particular. I had the same thing to overcome in a mare of my own. A LOVER OF THE CO. GENT.

INQUIRY.—I have a colt, (2 years old,) which has upon its head, midway between the eye and nostril, a hard callous swelling. It has been there about four weeks; and within a few days past, a similar swelling appears under the other eye. The larger bunch is about the size of a man's hand, and is not much sore. What reader of the Country Gentleman can tell me the cause and the cure? Such information will be thankfully received. E. M. GUFFIN. *Iowa.*

GRAPES.—Our annual basket of Catawba and Isabella Grapes, from our friend Dr. UNDERHILL of the Croton Point Vineyards, has come to hand, for which he will please accept our hearty thanks. They were well ripened, and we think of larger size than usual.

Notes for the Month.

RECEIPTS AT THE NEW-YORK STATE FAIRS.—We annex a list of the receipts at our State Fairs, from 1845 to the present year. Previous to 1853, the charge for admission was 12 1-2 cents. At the Fair of 1853 at Saratoga, the admission fee was raised to 25 cents, at which it has been kept to the present time. We add an estimate of the numbers present at each Fair, giving eight to a dollar when the admission was 12 1-2 cents, and at the rate of four to a dollar when the admission was 25 cents, and adding 3,000 for extra tickets to members:

Year.	Place.	Receipts.	Attendance.
1845	Utica.	$4,370.18	34,962
1846	Auburn,	4,333.17	34,666
1847	Saratoga,	4,034.22	32,274
1848	Buffalo.	6,272.86	50,183
1849	Syracuse.	8,144.55	65,157
1850	Albany.	10,465.61	85,725
1851	Rochester.	11,954.25	95,634
1852	Utica.	8,125.41	65,005
1853	Saratoga.	6,009.00	27,036
1854	New-York.	9,248.70	39,996
1855	Elmira.	11,527.25	48,008
1856	Watertown.	8,010.00	35,040
1857	Buffalo.	Between 16 and 17,000.	70,000

WINSLOW'S GRAPE.—This new variety is described by Dr. KIRTLAND of Cleveland, in a late number of the Ohio Farmer. He states that it is two weeks earlier than the Diana and Clinton; and from the figure given, its size must be about that of those two varieties. It is black; the bunches are rather small; the growth is small and compact; and the vine quite hardy. We infer that the flavor is not first-rate, although it is said to be better than the Clinton. Its extreme earliness may possibly render it valuable. It is said to have originated at Cleveland.

THE HOP TREE.—We notice recently some inquiries in relation to the tree known by this name. We have since been informed that it is the *Ptelea trifoliata*—a small tree which we have known and cultivated for twenty years, but without a knowledge of the value of its seed-vessels as hops. The name "hop tree" is a new name—it is commonly called the "shrubby Trefoil." A glance at its leaf or seeds would enable any one who has seen it to recognize it at once. It is wholly distinct from the Hop-hornbeam or Iron-wood, and is nearly allied to, or belongs to the same natural order as the Prickly Ash and Ailanthus. It is a native of the middle and southern States, and was introduced into cultivation in England 150 years ago, where some old specimens are now more than forty feet high. The seed is contained in flattened winged capsules, somewhat resembling those of the *elm*, whence the French name "*orme*," or "*orme de samarie*."

IMPORTATION OF LLAMAS.—The Llamas, soon to arrive in New-York, are said to be from the mountains of Peru and Eucador, where there is much snow, and where "they are found in large numbers, and as they are thus accustomed to cold weather, it is believed they are well adapted to the climate of this country, particularly that of our Northern latitudes. They are very hardy, vigorous animals, capable of bearing much fatigue, and of being sustained with comparatively little food. Those expected here are of the description from which the alapaca wool is obtained"

SHEEP SHEARING.—Gen. JOHN S. GOE, an extensvie breeder of improved stock, of Fayette Co., Pa., has an annual sheep-shearing at his farm, in June of each year. At the last, the report of which has just come to hand, 23 French Merino bucks were sheared—five were sheared unwashed whose fleeces averaged 16 lbs. 2 oz. each—the fleeces of the 18 washed averaged 8½ lbs. each. Of 32 Spanish Merino bucks, the fleece of one sheared unwashed weighed 15 lbs, 2 oz., and the fleeces of the 31 washed averaged 4 lbs. 14 oz each. The committee, under whose superintendence the sheep were sheared and the wool weighed, speak in high terms of Gen. Goe's Short-Horn cattle, Suffolk and Essex swine, &c.

LARGE PRIZES.—The Board of Commissioners who have charge of the improvement of the Central Park in New-York, offer the following sums for the four designs for laying out the grounds of the Central Park, which may be chosen by the Board:

For the first,	$2,000
For the second,	1,000
For the third,	750
For the fourth,	500

The designs to be furnished by the first of March next.

☞ Mr. J. F C. HYDE, Newton Center, Mass. sends us a sample of paper made from the "begasse," or waste of the stalk of the Chinese Sugar Cane from which the juice has been expressed. It is a good strong wrapping paper, but not smooth enough for "post-office paper."

TARTAR SHEEP.—Three of these sheep—a ram and two ewes—passed through this city last week on their way to H. G. OTIS, Esq. of Geneva, who recently purchased them in New-York. They are celebrated for the quality of their mutton, and for their productiveness. The tail of this sheep is said to afford the choicest treat a Tartar can put before his guest. One of these ewes has produced five lambs the past season; and a ewe of this breed was exhibited at the U. S. Exhibition in Philadelphia in 1856, with a progeny numbering seven in nine months—from Feb. to Nov.—two lambs in the former month, and three in the latter, while each of the first lambs also dropped a lamb the same month—all living, and in every respect healthy and strong.

CHINESE SUGAR CANE.—In all the recent discussions on the value of the Sorghum, one essential point seems to have been overlooked—and this is the *cost*. All appear now to agree that large quantities of molasses may be obtained from an acre of the stalks, the highest and most of the estimates being 200 to 300 gallons per acre, and the lowest and a few about half this amount. We do not think the precise amount per acre involves the main question—the cost of manufacture We are satisfied from our own experiments that an acre of the cane may be raised at a cost not exceeding the value of the stalks as fodder, after they have been through the pressing mill. The juice may therefore be obtained as cheaply as the sap from the maple, the cost of pressing out by the best horse-machinery not exceeding the labor of tapping and gathering sap, and the cost of sap-tubs.

Now, if we are correctly informed, the sap of the maple requires boiling down to one-twelfth or one-fifteenth to form molasses. The juice of the Sorghum, in the experiments in the central portions of this state, requires reducing only to about one-fourth or one-fifth—or only one-third the reduction of the maple sap. The manufacture of the latter can be profitably carried on only where fuel is quite cheap—and the most important consideration connected with the manufacture of molasses from the cane, is the reduced amount of labor and fuel needed on account of its greater richness over the maple. If nine-tenths of the cost of manufacture of maple molasses is fuel and labor of evaporation, then the Cane syrup may be made at less than one-half the expense of that from maple sap.

These estimates may not be accurate—we do not offer them as such; but merely as a guide to determine the great vital question—that of the cost of production.

☞ The Journal of the N. Y. S. Ag. Society for Nov., contains a full list of all the prizes awarded at the late State Fair at Buffalo.

Hon. A. B. Conger's Stock Catalogue, which has been accidentally overlooked for several weeks, includes a large variety of superior cattle, as well as sheep and swine. The Ayrshires come first, including 8 head of cows and heifers, two of them imported, and the imported bull "Marmion 2d," also 5 other bulls and bull calves The North Devons number 14 cows and heifers, and 7 bulls and bull calves, all carefully bred from the best sources. There are 20 head of Short Horns, 3 of them bulls and bull calves, and embracing animals from such breeders as the Bathgates of Fordham, Lorillard Spencer, Paoli Lathrop, Edgar Sprague of Smithtown, Long Island, and others, beside a number of Mr. C's own breeding. Several head of South Downs, and of Essex and Suffolk pigs, from imported stock, are offered for sale—also 3 heifer calves—a cross between the Short Horn and Ayrshire breeds. B. Fletcher, jr., head farmer and herdsman, Haverstraw, N. Y., should be addressed for further information.

The Large Trees in California.—A party of gentlemen, of whom the editor of the California Farmer was one, recently visited Yosemity Valley on an exploring expedition. One object was to ascertain the measurement of some of the enormous pine trees to be found in that valley. The California Farmer furnishes the following measurements by the two parties into which the company was divided. Some of the trees are said to have been 300 feet high, and several of them 225 to 250 feet:

Number of trees.	Circumferance in feet.	Number of trees.	Circumference in feet.
1 tree	102	1 tree	53
1 tree	97	1 tree	51
1 tree	92	4 trees each	50
3 trees each	76	6 trees each	49
1 tree	72	5 trees each	48
3 trees each	70	2 trees each	47
1 tree	68	3 trees each	46
1 tree	66	2 trees each	46
1 tree	63	1 tree	44
3 trees each	62	2 trees each	43
2 trees each	60	2 trees each	42
1 tree	59	1 tree	40
1 tree	58	1 tree	35
3 trees each	57	2 trees each	36
1 tree	56	2 trees each	32
3 trees each	55	1 tree	28
2 trees each	54		

The aim was to see if we could not find one hundred trees over fifty feet in circumference; which was more than accomplished by both parties, as will be seen. Our party measured as follows (none less than forty feet:)

Number of trees.	Circumference in fee	Number of trees.	Circumference in feet.
2 trees each	100	2 trees each	59
1 tree	82	1 each from	58
1 tree	80	down to	52
2 trees each	77	2 trees each	51
1 tree	76	6 trees each	50
3 trees each	75	1 tree	49
1 tree	72	1 tree	47
2 trees each	69	1 tree	46
3 trees each	67	2 trees each	45
1 tree	64	1 tree	43
4 trees each	65	7 trees each	44
2 trees each	63	4 trees each	42
1 tree	61	3 trees each	41
10 trees each	60	8 trees each	40

Some of these were in groups of three, four and even five, seeming to spring from the seeds of one cone.

The Kyloe Cattle.—We notice in a late number of the *Mark Lane Express*, a contribution in relation to this breed of cattle, natives of the Hebrides and other North British islands, and thought to possess some characteristics rendering them worthy of more careful breeding and general attention than they have yet received.

We remember having seen one or two samples of Kyloe cattle, owned at Ashland, near Lexington, Ky., by James B. Clay, Esq., who purposed, we believe, making some experiments in crossing them with Short-Horns, and perhaps, also, in breeding them separately. The results might be of interest to the Agricultural community. The polled Galloways and the Kyloes "fetch at an average 6*d* sterling per Smithfield stone over any fattened animals in the United Kingdom."

Combined Plow.—I have a plow which has taken the premium for the two last years at our fair, which for convenience and economy, surpasses any plow I have yet seen. It is called the "Wrought Iron Plow," and was invented at the south. It costs about $20, complete, according to size. For one horse—the weight of the brace or frame is 40 to 44 lbs. Twenty different bitts or shares are made to work on the brace, simply by bolting on the end of the handles of the brace. It can be made to embrace most any kind of plow, the brace not be laid aside for any plowing, and is not subject to wear in the least. I have worked them for two years, and they are as good as ever. The bitts are only to repair when worn out. Joel Williams. *Cumberland Co., N. C.*

The N. E. Farmer has a notice of a plow, constructed on a plan similar to the above, which was exhibited at the late Boston Fair: "In the collection of Nourse, Mason & Co., we also saw the *Universal Plow* devised by Mr. Holbrook of Battleboro', Vt.; it has but one beam and *twelve* mould boards, calculated to suit all soils and places. This plow contains a combination of happy thoughts, and we think will be generally adopted. Some further experiments are about to be made with it, the results of which we shall lay before our readers."

Bermuda Grass.—I send you a specimen of our best pasture and yard grass, called here "Bermuda grass." (If you plant it in a box, and keep it from the frost, it may perhaps grow.) It is the only grass that will stand the severe droughts, except the Muskeet grass, to which it is very similar. (I had a sample of the running Muskeet and lost it.) It forms the finest and thickest grass for door-yards, and for grazing can be pastured very closely. It will make the best kind of hay. Horses will select it out from any other kinds grown here. I have never seen any of this grass in the North, that I can remember. Jno. W. Fraley. *Bonham, Texas, Oct.* 19.

P. S. I will send you some buds and cuttings of some of our best native wild grapes shortly.

Product of One Pea.—J. S E informs us that having found a pea which had come up in a hill of corn, he put a bush for it to run on, and at maturity he found it produced 52 pods and 309 peas.

Large Calf.—Mr. D. F. Tillotson, of this place, has raised a calf that was fourteen months old on the 17th day of August, and was weighed the 20th day of August. Weight 1,270 lbs. N. C. C. *Orfordville, N. H.*

Correction.—On page 204 of the Co. Gent. of Sept. 24, and page 335 of the Nov. Cultivator, there is a remedy for Sweney by C. D. Gray. Now there is a mistake about the matter somewhere; the name is O. D. Gray, and the medicine is for ring-bone, and not for sweney. O. D. Gray. *Castle Creek, N. Y.*

Hungarian Grass.—Much has been said in the western papers, for some time past, in relation to a new kind of grass, which has been cultivated in Iowa for a year or two past, under the name of "Hungarian grass," which proves to be the genuine German or Hungarian millet

Life Illustrated.—This spirited Pictorial weekly Family journal commenced its 5th vol. on the 31st Oct. Published by Fowler & Wells, New-York — $2 a year.

Dr. E. Holmes, Editor of the Maine Farmer, has been chosen President of the Maine Pomological Society.

PROSPECTUS FOR 1858.

THE SATURDAY EVENING POST.

ESTABLISHED AUGUST 4, 1821.

THE PAPER THAT NEVER SUSPENDS.

A Family Weekly—Devoted to Literature and the News.

IN THESE times of Bank suspensions and Mercantile suspensions, the proprietors of the SATURDAY EVENING POST call the attention of the reading public to their old and firmly-established weekly paper, as the paper that never suspends. For over

THIRTY-SIX YEARS,

THE POST has been published; and in all that period—through "good times" and through "bad times," through bank inflations and bank contractions, through prosperous seasons and through panics, THE POST has been regularly issued every week, and forwarded to its thousands of subscribers. Its proprietors therefore point to the past as an unfailing index of the future. And they feel that in asking of the reading public a continuance of the patronage heretofore so liberally bestowed upon THE POST, they are asking no more than what it will be both the interest and the pleasure of that public to grant.

Among the contributors to THE POST, we may mention the following gifted writers:

WILLIAM HOWITT, ALICE CARY, T. S. ARTHUR, GRACE GREENWOOD, ANNA BLACKWELL, AUGUSTINE DUGANNE, MRS. M. A. DENISON, EMMA ALICE BROWNE, The Author of **'An Extra-Judicial Statement,"** The Author of **"Zillah, the Child Medium,"** &c., &c., &c.

We design commencing in the first paper of January, an original

NOVELET, BY T. S. ARTHUR.

Mr. Arthur's productions are so widely known, that we need hardly say that the tone of the present Novelet will be entirely consistent with the moral and instructive character which we have always striven to impress upon THE POST. Readers who wish to peruse the FLASH STORIES which abound in the land—pernicious and destructive in their tendency and effects—can find them, we regret to say, at every corner. But THE POST will still maintain its high character, as a paper which the most scrupulous parent may allow freely to enter

THE FAMILY CIRCLE;

And which will purify and instruct, instead of demoralizing and corrupting, the youthful mind. Especially will its conductors avoid, in the publication of the weekly news, all those long and disgusting reports—unfortunately now so common—of

VILE CRIMINAL CASES;

Believing, as they do, that the practice of publishing the details of such loathsome cases, and of the criminal trials resulting therefrom, is a fruitful cause of the recent alarming increase of vice and crime in the community. Like begets like—and what the mind feeds upon, that it will grow to resemble.

CHOICE SELECTIONS

of all kinds, from the BEST FOREIGN AND DOMESTIC SOURCES, shall continue to be, as heretofore, a leading feature of THE POST. The Stories, Essays, Sketches, Agricultural and Scientific Facts, &c., &c., obtained in this way for the readers of THE POST, are among the most instructive as well as interesting portion of its contents.

THE VERY CREAM

of the PERIODICAL LITERATURE of the BRITISH ISLES is thus given to our readers. THE POST, weekly, has

SOMETHING FOR ALL

the members of the family, NOVELETS, ESSAYS, STORIES, ENGRAVINGS, AGRICULTURAL ARTICLES, THE NEWS, SKETCHES, POETRY, ANECDOTES, RIDDLES, THE WHOLESALE AND RETAIL MARKETS, BANK NOTE LIST, &c., &c., &c.

Finally, we may mention three good reasons why the reading public should give the preference to THE POST:—

It is Superior to Any other Paper of the Same Price.

It is Cheaper than Any other Paper of Equal Merit.

It will be Certain to Come when Paid for.

TERMS (Cash in Advance)---Single Copy $2 a Year.

FOUR COPIES,	$ 5.00 a year.
EIGHT COPIES, (and one to the getter-up of the Club,)	10.00 "
THIRTEEN COPIES, (and one to the getter-up of the Club,)	15.00 "
TWENTY COPIES, (and one to the getter-up of the Club,)	20.00 "

The Postage on the POST to any part of the United States, paid quarterly or yearly in advance, at the office where it is received, is only 26 cents a year. Address, ALWAYS POST-PAID,

DEACON & PETERSON,

No. 132 SOUTH THIRD STREET, PHILADELPHIA.

☞ SAMPLE NUMBERS SENT GRATIS TO ANY ONE, WHEN REQUESTED. ☜

☞ TO EDITORS.—Editors who give the above one insertion, or condense the material portions of it for their EDITORIAL columns, shall be ENTITLED to an exchange, by sending us a marked copy of the paper containing the advertisement or notice.

Dec. 1—wltmlt

Lawton Blackberry Plants.

Scale of Prices by the Dozen.

A PACKAGE of one dozen,..... $3
do. two dozen,..... 5
do. five dozen,..... 10
do. eight dozen,..... 15
do. twelve dozen,..... 20

The name and direction of the purchasers should be distinctly written, and the money accompany the order.

Address to WILLIAM LAWTON.
Oct. 1—w4tm2t. 54 Wall-Street, New-York.

Important to the Farmer and Butcher.

FOR SALE by the subscriber, two Thorough-bred LEICESTER RAMS, one year old, bred from Ewes imported by Brodie & Hungerford. Also fifty Thorough-bred SPANISH MERINO LAMBS, bred from Bucks bought of Stephen Atwood of Conn. Also one hundred MERINO WETHERS, fit for the butcher, or a fine lot to stall feed; they are large. Also Thorough-bred SUFFOLK PIGS. I will sell a colt, now five months old, got by the thorough-bred horse Consternation, from one of the best mares in this county—all of which will be sold at prices to make it an object for farmers to purchase.

Any information in relation to the stock, will be cheerfully given by addressing the subscriber at Otisco, Onondaga Co., N. Y. N. H. NOYES,
Nov. 5—w4tm1t. Otisco, Oct. 26th.

Berkshire Pigs for Sale!

WARRANTED of pure breed, and at a low figure.
WILLIAM J. PETTEE.
June 11—w&mtf Lakevill, eConn.

Excelsior Ag. Works, Albany, N.Y.

RICH'D H. PEASE, Proprietor.

WE OFFER the farmers and other responsible persons of this country, a rare chance to make money as fast as they can in most any other way, by selling our Celebrated Excelsior Patent Railway Endless Horse Powers, Threshers, Cider Mills, Saw Mills, &c., &c., for which we will allow them a liberal commission. Last season many farmers sold these machines for us, and they all made money, and are anxious to sell them again this season. All communications addressed to the subscriber will be promptly answered. RICH'D H. PEASE.

CERTIFICATES.

BEDFORD Co. Tenn. Oct. 15, 1856.

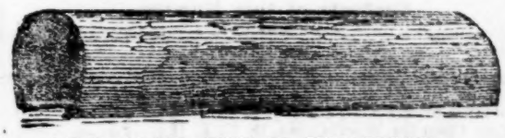
We the undersigned hereby certify that we have purchased of the Agent of the Manufacturer, Richard H. Pease of Albany, New-York, his "Excelsior Horse Power and Thresher," and having used them a sufficient length of time to convince us of their utility and durability, feel no hesitancy in saying that in our opinion they are the very best of which we have any knowledge, they having performed to our entire satisfaction. Given under our hand, day and date above.

GARRET PHILLIPS,	BENJ. GARRETT,
M. L. DISMUKES,	ALEX. SANDERS.
THOS. LIPSCOMB,	WM. M. GOGGIN,
WM. A. ALLEN,	ALEX. EAKIN,
J. T. ARNOLD,	REDDING GEORGE,
W. W. HASTINGS,	J. J. KOONCE,
JAMES MULLINS.	W. C. J. BROWN,

H. D. DAVIDSON.

EAST GREENWICH, N. Y., Feb. 25, 1857

MR. R. H. PEASE—I received the Two Horse Power, Thresher and Separator I purchased of you, and put it to work to test it. I have threshed 2,500 bushels of wheat, oats and rye with them, without a break of any kind. It works to my entire satisfaction, and I think there is no better machine made. WM. MCNEIL.
May 14—w&mtf.



ALBANY TILE WORKS.

Corner of Patroon and Knox Streets, Albany, N. Y.

THE subscribers, being the most extensive manufacturers of Draining Tile in the United States, have on hand, in large or small quantities for Land Draining, the following descriptions, warranted superior to any made in this country, hard burned. On orders for 10,000 or more, a small discount will be made.

HORSE-SHOE TILE CUT 14 INCHES LONG—PIECES.

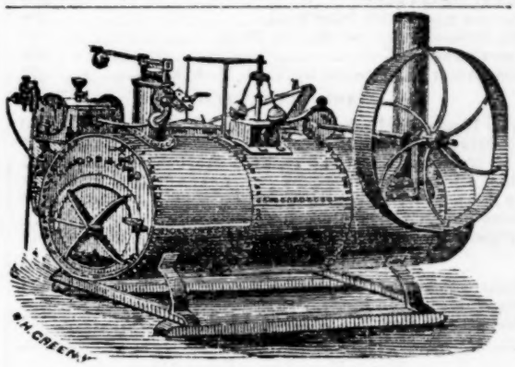
2½	inches rise,	$12 per 1000
3½	" "	15 "
4½	" "	18 "
5½	" "	40 "
6½	" "	60 "
8	" "	80 "

SOLE TILE CUT 14 INCHES LONG—PIECES.

2	inches rise,	$12 per 1000
3	" "	18 "
4	" "	40 "
5	" "	60 "
6	" "	80 "

Also on hand 6-inch calibre Octagon pipe, $20 per 100, and 8-inch calibre Round pipe, $30 per 100, for large drains —Cornice Brick, of the pattern used in the City of Washington, also on hand.

Orders respectfully solicited. Cartage free.
C. & W. M'CAMMON,
Albany, N. Y.
RICHD. H. PEASE, Agent,
Excelsior Ag. Works, Warehouse and Seed Store,
March 1—w&mtf 359 & 371 Broadway, Albany, N. Y.



Wood's Portable Steam Engine Works,

Corner of Rome and Cornelia Streets, Utica, N. Y., (formerly Eaton, N. Y.)

A. N. WOOD & CO.

Practical Machinists, and Builders of their Celebrated

PORTABLE STEAM ENGINES

For Farm and Mechanical Purposes.

WE HAVE made great improvements in our Engines the past winter, particularly in the manner of setting the tubes in the boilers, (by Prosser's Patent) adding a large wrought-iron dome in place of small cast ones, increased the size of fire-box, with ash-pan that can be closed up tight or opened at pleasure,—also in the manner of connecting the governor to throttle, making it direct action.

Parties wishing Circulars with cuts of Engine, should enclose P. O. Stamp to pay return postage on same. The following is our

PRICE LIST FOR 1857.

Horse power	estimate weight	space occupied	cash price	fly-wheel diameter	face of wheel
2½	2000 lb.	4 by 5 ft.	$240	39 in.	5½ in.
3	2200 "	5 by 5 "	290	39 "	5½ "
4	2500 "	7 by 5 "	355	40 "	6 "
6	3600 "	7 by 5 "	550	44 "	7 "
8	4800 "	9 by 6½ "	700	48 "	8 "
10	6000 "	10 by 6½ "	875	60 "	8 "
12	7500 "	14 by 6½ "	1050	72 "	12 "

The above price includes boxing and delivered on board cars. A. N. WOOD & CO.
April 23—wtf—June 1—mft.

Contents of this Number.

THE FARM.

Agricultural Statistics of New-York,..... 363
Chinese Sugar Cane, by R. J. WILCOX,..... 364
Portable Steam Saw, &c., by R. M. CONKLIN,..... 365
Sugar Cane for Milch Cows, by C. T. H.,..... 365
Lime in Composts,..... 365
Chinese Sugar Cane,..... 366
Use of Salt in Potato Culture, by J. C. CLEVELAND,.. 367
On Cutting Hay for Stock, by A WORKING FARMER,.. 369
The Chufas, by D. J. BROWNE,..... 369
Culture of the Onion, by A SUBSCRIBER,..... 370
Preparations for Winter..... 370
Letter from Canada, by W. O. BUEL,..... 371
How to Store Roots,..... 371
Preparation of Feed for Stock, by WM. WINSPEAR,... 375
Cutting Hay, &c., for Stock, by GERALD HOWATT, ... 376
Experiments in Potato Culture, by P. SIDEBOTHAM,... 376
Willard's Patent Root Cutter,..... 377
The Dioscorea Batatas, by E. Y. B.,..... 377
Inquiries and Answers,..... 378
Notes for the Month,..... 380

THE GRAZIER.

Winter Feed for Milch Cows, by H. H.,..... 362
Suffolk Pigs, by G. F. CONKLIN,..... 366
Large Ox Team,..... 366
On Cutting Hay, Straw, &c.,..... 363, 375, 376
Protection from Bloody Murrain, by J. WADSWORTH, 370
Gapes in Young Turkies,..... 370
An Albany Horse,..... 372

THE HORTICULTURIST.

Cost and Profit of a Half-acre Garden,..... 362
Grafting the Grape,..... 366
Injury to Apple Trees by the Winter, by J. WATERS, 366
Planting Peach Pits, by A SUBSCRIBER,..... 366
Winter-Mulching Fruit Trees, by V. ALDRICH, ... 369
The Ontario Pear,..... 372
Renovating an Old Pear Tree,..... 372
Des Nonnes Pear and Fulton Plum,..... 373
The Calceolaria,..... 374
New American Grapes, by T. M. HARVEY,..... 374

THE HOUSEWIFE.

Corn Husks for Under Beds,..... 366
To Drive away Rats,..... 371
How to Make Lard Candles, by J. A. ROBINSON,..... 372
Cider Champagne Wine, by A. CHAVANNESS,..... 373
To Keep Cider Sweet, by J. W. L.,..... 373
Good Tallow Candles, by J. B.,..... 374
Preparation of Tripe, by C. T. ALVORD,..... 375

ILLUSTRATIONS.

Ontario Pear, ... 372
Diagram of Pear Roots, 372
Des Nonnes Pear,..... 373
Fulon Plum, ... 373
The Calceolaria..... 374
Root Cutter, ... 377

Three Vols. 8 vo.—Price $15.

The American Short-Horn Herd Book,

BY LEWIS F. ALLEN,

FOR SALE at the office of the Country Gentleman and Cultivator. The vols. will be sold separate—the first vol. at $3, and vols. 2 and 3 at $6 each. Every Short-Horn Breeder should have this work.

Notice Extraordinary.

To Farmers who consult their Interest and Comfort.

THE CELEBRATED EXCELSIOR HORSE POWER Thresher and Separator, manufactured by the subscriber, has been awarded the FIRST PREMIUM by the United States Agricultural Society at their great exhibition in Louisville, Ky., Sept. 1, 2, 3, 4 and 5, 1857. It was tested in competition with all the best Powers made in this country, in presence of the judges, and was pronounced THE BEST, as its name indicates. Those wishing these machines will apply soon, as the demand is large and the supply limited. Get the best, which is always the cheapest.

Agents wanted where none are established, and if well recommended, a liberal commission will be given them.

Descriptive Circulars furnished on application, GRATIS

For further particulars address RICH. H. PEASE,
Sept. 17—w13tm3t. Albany, N.

One Large 12 mo. Vol.—Price $1.50.

Downing's Fruit and Fruit Trees,

JUST PUBLISHED, and for sale at this office—sent by mail postpaid, at $1.75.

Three Hundred and thirty-six pages, and Four Hundred and forty Engravings.

RURAL AFFAIRS.

A COMPLETE ENCYCLOPEDIA IN MINIATURE for every man with a Farm, a Garden, or a Domestic Animal—for every Place which will grow a Flower or a Fruit-tree—for every Purchaser or Builder in the Country, and for every Household in the City, delighting in representations or looking forward with hopes of Rural Life. Embracing

RURAL ARCHITECTURE,
LANDSCAPE GARDENING,
FRUIT CULTURE;
ORNAMENTAL PLANTING,
BEST FRUITS AND FLOWERS,
IMPLEMENTS & MACHINERY.
FARM ECONOMY
DOMESTIC ANIMALS,
FARM BUILDINGS,
HINTS FOR CULTIVATORS.

Beautifully Illustrated with 440 Engravings.

By JOHN J. THOMAS, Author of the "American Fruit Culturist, &c., &c. Sent post-paid on receipt of $1 in Gold, Postage Stamps, or Bank-note, by the publishers.

Among the Illustrations of this volume, are

11 figs. of Apples,
2 " Apricots,
6 Plans of Barns,
2 figs. of Blackberries,
7 Plans of Barns,
2 " Carriage Houses,
8 Portraits of Cattle,
3 figs. of Cheese Presses,
4 " Churns,
14 " Cherries,
2 " Cider Mills,
3 Corn Planters,
2 Corn Shellers,
3 Drills,
6 Maps of Farms,
4 Flower Gardens,
15 Flowering Plants,
9 figs. of Strawberries,
2 Stump Machines,
16 figs. in Fruit Culture,
4 Grape Houses,
7 figs. Grape Culture,
4 Harrows,
4 Portraits of Horses,
17 Plans of Houses,
5 figs. for Lawns,
10 Mowers and Reapers,
12 figs. of Pears,
10 Plows,
11 Plums,
2 Poultry Houses,
6 Raspberries,
12 figs. of Rustic Work,
3 desi'ns for school-hous's,
5 figs. of Sheep,
6 " Swine.
12 Trees, with
179 other Illustrations,

Embracing a great variety of Implements, Machines, Ornaments, Gates, &c., &c., forming a collection such as can be found in no other single volume yet published.

The PURITAN RECORDER, Boston, thus notices this work:

"We cannot conceive of a plan of a book better adapted for utility to all the purposes of the Farmer than this. It is to him what a book of architectural plans is to the Builder. It paints to the eye everything with which the Farmer has to do; and there is hardly any subject of practical interest to the Farmer which is not here treated and practically illustrated."

This we think is the best book yet published, for School District and Town Libraries, as well as for Premiums to be awarded by Agricultural and Horticultural Societies.

LUTHER TUCKER & SON,
Albany, N. Y.

*** The same publishers have just issued THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS for 1858—a beautiful annual of all Agricultural and Horticultural matters—with 130 Engravings. Price 25 cents. For the sake of introducing it more widely in every locality, they will send One Dozen Copies, post-paid, for TWO DOLLARS!

FRUIT BOOKS,

BY THOMAS, BARRY, DOWNING, and others, for sale at the office of the Country Gent. and Cultivator.

CONCORD GRAPE,

At Reduced Prices.

ORDERS for this unrivalled Grape are solicited, at the following reduced rates:

One year old plants, $1.50.
do. do. 2.00 pr. pair.
do. do. 10.00 pr. doz.
Nice bearing vines, 2.00 to 3.00

Packing and delivery at Express office, free. Cash orders should be addressed to J. D. INGERSOLL,
Nov. 12—w9t* Ilion, Herkimer Co., N. Y